UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	Docket No. 50-391
TENNESSEE VALLEY AUTHORITY	)	
	)	August 7, 2009
(Watts Bar Nuclear Plant Unit 2)	)	

TENNESSEE VALLEY AUTHORITY'S ANSWER OPPOSING THE SOUTHERN ALLIANCE FOR CLEAN ENERGY, ET AL. PETITION TO INTERVENE AND REQUEST FOR HEARING

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I. INTRODUCTION

In accordance with 10 C.F.R. § 2.309(h), Tennessee Valley Authority ("TVA"), applicant in the above-captioned matter, hereby timely files its Answer to the "Petition to Intervene and Request for Hearing" ("Petition") jointly filed by the Southern Alliance for Clean Energy ("SACE"), Tennessee Environmental Council ("TEC"), We the People ("WTP"),[1] the Sierra Club, and Blue Ridge Environmental Defense League ("BREDL") (collectively, "Petitioners") on July 13, 2009. The Petition responds to the U.S. Nuclear Regulatory Commission ("NRC" or "Commission") "Notice of Receipt of Update to Application for Facility Operating License and Notice of Opportunity for Hearing for the Watts Bar Nuclear Plant, Unit 2 and Order Imposing Procedures for Access to Sensitive Unclassified Non-Safeguards Information and Safeguards

[1] Although Petitioners refer to this organization as "We the People," it appears that the actual organization being referred to, of which Ann P. Harris is a member, is "We the People, Inc. of the United States." *See* www.wtpus.org.

Information for Contention Preparation," published in the *Federal Register* on May 1, 2009 ("Hearing Notice").[2]

As discussed below, TVA does not contest the representational standing of any individual Petitioner, but the Petition should be denied in its entirety because Petitioners have failed to proffer an admissible contention, as required by 10 C.F.R. § 2.309(a). In addition, TEC, WTP, the Sierra Club, and BREDL failed to file a timely request for hearing and petition to intervene pursuant to 10 C.F.R. § 2.309(c). Thus, the Petition—as filed by SACE—is deficient for the numerous reasons fully explained below and should be rejected in its entirety.

II. BACKGROUND

On November 1, 1972, TVA issued a Final Environmental Statement[3] ("TVA 1972 FES") for construction and operation of Watts Bar Nuclear Plant ("WBN") Units 1 and 2. On January 23, 1973, the Commission issued Construction Permit No. CPPR-92 for WBN Unit 2.[4] TVA submitted its original application for facility operating licenses ("OL") for WBN Unit 1 and 2 on June 30, 1976. The NRC published the "Notice of Receipt of Application for Facility Operating Licenses, Notice of Consideration of Issuance of Facility Operating Licenses, and Notice of Opportunity for Hearing for WBN Units 1 and 2" in the *Federal Register* on December 27, 1976.[5]

On December 1, 1978, the NRC issued its Final Environmental Statement[6] ("NRC 1978 FES") evaluating the operation of WBN Units 1 and 2. On April 1, 1995, the NRC issued

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[2] 74 Fed. Reg. 20,350.

[3] TVA's Final Environmental Statement, Watts Bar Nuclear Plant Units 1 and 2 (December 1972).

[4] *See* Watts Bar Nuclear Plant: Notice of Issuance of Construction Permits, 38 Fed. Reg. 3001 (Jan. 31, 1973). The construction permit ("CP") for WBN Unit 1 also was issued on January 23, 1973, as Construction Permit No. CPPR-91. *See* 38 Fed. Reg. at 3001.

[5] 41 Fed. Reg. 56,244 (Dec. 27, 1976).

[6] NUREG-0498, Final Environmental Statement Related to the Operation of Watts Bar Nuclear Plant, Units 1 and 2 (Dec. 1, 1978) ("NRC 1978 FES").

Supplement No. 1 to the NRC 1978 FES ("NRC 1995b") to re-examine environmental considerations before issuing OLs for WBN Units 1 and 2.[7] On June 1, 1995, TVA issued its Final Supplemental Environmental Review, Operation of Watts Bar Nuclear Plant ("TVA 1995b"), in which TVA documented its independent review of NRC 1995b and included a new analysis of the need for additional power. On June 30, 1995, TVA adopted NRC 1995b.[8] On February 7, 1996, the NRC issued a full-power OL to TVA to operate WBN Unit 1.[9]

Between 1973 and 2000, the NRC—on several occasions—extended the WBN Unit 2 construction permit ("CP").[10] These extensions were necessitated by delays in the completion of the design, modification, and installation of certain components,[11] revised power usage projections,[12] and TVA's then-ongoing efforts to improve certain work control practices and programs at the WBN site.[13] On October 24, 2000, the NRC extended the WBN Unit 2 CP to December 31, 2010, based on TVA's maintenance of the plant in deferred plant status as defined

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7 *See* NUREG-0498, Supp. 1, Final Environmental Statement Related to the Operation of Watts Bar Nuclear Plant, Units 1 and 2, at iii (April 1995) ("NRC 1995b").

8 Adoption of Final Environmental Impact Statement, 60 Fed. Reg. 35,577 (July 10, 1995) (adopting NRC 1995b, which applied to both WBN Units 1 and 2).

9 *See* Watts Bar Nuclear Plant, Unit 1, Tennessee Valley Authority; Notice of Issuance of Facility License, 61 Fed. Reg. 5587 (February 13, 1996); *see also* Notice of Receipt of Application for Facility Operating License and Notice of Opportunity for Hearing for the Watts Bar Nuclear Plant, Unit 2, 74 Fed. Reg. 20,350, 20,350 (May 1, 2009).

10 *See* Order, 73 Fed. Reg. 39,995 (July 11, 2008); Order, 65 Fed. Reg. 64,725 (Oct. 30, 2000); Order, 56 Fed. Reg. 30,778 (July 5, 1991); Order, 54 Fed. Reg. 213 (Jan. 4, 1989); Order Extending Construction Completion Dates, 52 Fed. Reg. 25,676 (July 8, 1987); Order Extending Construction Completion Dates, 51 Fed. Reg. 15,981 (Apr. 29, 1986).

11 *See* 51 Fed. Reg. at 15,982.

12 *See* 52 Fed. Reg. at 25,676.

13 *See* 56 Fed. Reg. at 30,778; 54 Fed. Reg. at 213.

in the Commission's "Policy Statement on Deferred Plants."[14] The NRC issued the most recent extension of the WBN Unit 2 CP on July 7, 2008; this extension expires on March 31, 2013.[15]

On August 3, 2007, TVA informed the NRC Staff of its intention to reactivate and complete construction of WBN Unit 2, constituting its 120-day notice under the Commission's "Policy Statement on Deferred Plants."[16] As part of this effort, TVA submitted its Final Supplemental Environmental Impact Statement[17] ("2007 FSEIS") to the NRC on February 15, 2008.[18] On March 4, 2009, TVA submitted an update to its WBN Unit 2 OL application[19] to address, among other things, WBN Unit 2 licensing topics that were not previously reviewed by the NRC before TVA placed the plant in deferred status.[20]

The Commission published the Hearing Notice for this OL proceeding in the *Federal Register* on May 1, 2009.[21] It stated that any person who wishes to participate as a party in this proceeding must file a written request for a hearing and petition to intervene within 60 days of

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14 *See* 65 Fed. Reg. at 64,725; Letter from M. Burzynski, TVA, to S. Collins, U.S. NRC (July 14, 2000), *available at* ADAMS Accession No. ML003754798.

15 *See* 73 Fed. Reg. 39,995.

16 Letter from W. McCollum, Jr., TVA, to U.S. NRC (Aug. 3, 2007), "Watts Bar Nuclear Plant (WBN) – Unit 2 – Reactivation of Construction Activities," *available at* ADAMS Accession No. ML072190047.

17 Final Supplemental Environmental Impact Statement, Completion and Operation of Watts Bar Nuclear Plant Unit 2, Rhea County, Tenn. (June 2007) (encl. to Letter from M. Bajestani, TVA, to U.S. NRC, "Watts Bar Nuclear Plant (WBN) – Unit 2 – Final Supplemental Environmental Impact Statement for the Completion and Operation of Unit 2," (Feb. 15, 2008), *available at* ADAMS Accession No. ML080510469 ("February 15, 2008 Bajestani Letter")). The 2007 FSEIS is also available at http://www.tva.gov/environment/reports/wattsbar2/index.htm.

18 February 15, 2008 Letter from M. Bajestani, TVA to U.S. NRC, *available at* ADAMS Accession No. ML080510469. The 2007 FSEIS supplements TVA's 1972 FES and provides TVA's "assessment of the actions required to complete WBN Unit 2." *Id.* at 2.

19 Letter from M. Bajestani, TVA, to U.S. NRC, "Watts Bar Nuclear Plant (WBN) Unit 2 – Operating License Application Update," (Mar. 4, 2009), *available at* ADAMS Accession No. ML090700378.

20 *See* SECY-07-0096 ("Possible Reactivation of Construction and Licensing Activities for the Watts Bar Nuclear Plant Unit 2") at 5-6, *available at* ADAMS Accession No. ML071220492 (stating that, "TVA will need to address [WBN Unit 2 licensing topics that have not been previously reviewed] in supplements to the Unit 2 license application").

21 Hearing Notice, 74 Fed. Reg. at 20,350.

the initial publication of the Notice (*i.e.,* by June 30, 2009) in accordance with 10 C.F.R. § 2.309.[22] Prior to this deadline, on June 16, 2009, SACE alone filed a "Request for Extension of Time to Submit Hearing Request/Petition to Intervene," seeking a two-week extension of time ("SACE's Request for Extension of Time"). On that same day, Ms. Diane Curran entered her appearance as legal counsel for SACE.[23]

On June 18, 2009, TVA filed its "Response to SACE's Request for Extension of Time," wherein it agreed to the request and offered to provide Ms. Curran with information she sought to prepare SACE's Petition.[24] On June 24, 2009, the Commission granted SACE until July 14, 2009, to file a request for hearing and petition to intervene. On July 13, 2009, SACE was joined by TEC, WTP, the Sierra Club, and BREDL in filing their joint Petition.

III. ANALYSIS OF PETITIONERS' STANDING

A. Applicable Legal Standards and NRC Precedent

Under 10 C.F.R. § 2.309(d)(1), a petitioner must provide specified information to support a claim of standing. Judicial concepts of standing are generally followed in NRC proceedings.[25] Thus, to demonstrate standing, a petitioner must show: (1) an actual or threatened, concrete and particularized injury that is (2) fairly traceable to the challenged action and (3) likely to be redressed by a favorable decision.[26] These three criteria are commonly referred to as injury-in-fact, causation, and redressability, respectively.

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22 *Id.* at 20,351.

23 On July 13, 2009, Mr. Matthew Fraser also entered a Notice of Appearance on behalf of SACE.

24 As noted in its June 18, 2009 Response, TVA agreed only to SACE's Request for Extension of Time. During several phone calls between counsel for TVA and counsel for SACE on this issue, counsel for SACE never mentioned that the request for extension of time applied to any petitioner other than SACE or that counsel for SACE represented any other petitioners in this proceeding.

25 *See Nuclear Mgmt. Co., LLC* (Monticello Nuclear Generating Plant), CLI-06-6, 63 NRC 161, 163 (2006).

26 *See Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-96-1, 43 NRC 1, 6 (1996).

First, a petitioner's injury-in-fact showing "requires more than an injury to a cognizable interest. It requires that the party seeking [to participate] be himself among the injured."[27] The injury must be "concrete and particularized," not "conjectural" or "hypothetical."[28] Additionally, the alleged "injury in fact" must lie within "the zone of interests" protected by the statutes governing the proceeding—either the AEA or the National Environmental Policy Act of 1969, as amended ("NEPA").[29] Second, a petitioner must establish that the injuries alleged are fairly traceable to the proposed action—in this case, the issuance of the OL for WBN Unit 2.[30] Although a petitioner is not required to show that the injury flows directly from the challenged action, it must nonetheless show that the "chain of causation is plausible."[31] Finally, each petitioner is required to show that "its actual or threatened injuries can be cured by some action of the tribunal."[32] In other words, "it must be likely, as opposed to merely speculative that the injury will be redressed by a favorable decision."[33]

Under NRC case law, a petitioner may, in some instances, be presumed to have fulfilled the judicial standards for standing based on his or her geographic proximity to a facility or source of radioactivity.[34] The Commission has held that working or living within a 50-mile radius of a

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27 *Sierra Club v. Morton*, 405 U.S. 727, 734-35 (1972).

28 *Sequoyah Fuels Corp*. (Gore, Okla. Site), CLI-94-12, 40 NRC 64, 72 (1994) (citations omitted).

29 *Quivira Mining Co.* (Ambrosia Lake Facility, Grants, N.M.), CLI-98-11, 48 NRC 1, 5 (1998), *aff'd sub nom. Envirocare of Utah, Inc. v. NRC*, 194 F.3d 72 (D.C. Cir. 1999).

30 *See Sequoyah Fuels*, CLI-94-12, 40 NRC at 75.

31 *Id.*

32 *Sequoyah Fuels Corp*. (Gore, Okla. Site Decommissioning), CLI-01-2, 53 NRC 9, 14 (2001).

33 *Sequoyah Fuels*, CLI-94-l2, 40 NRC at 76 (*quoting Lujan v. Defenders of Wildlife*, 504 U.S. 555, 561 (1992) (internal quotations omitted)).

34 *Exelon Generation Co., L.L.C.* (Peach Bottom Atomic Power Station, Units 2 & 3), CLI-05-26, 62 NRC 577, 580 (2005).

nuclear power reactor is generally sufficient to invoke the proximity presumption in proceedings involving the issuance of a CP or an OL.[35]

An organization that wishes to intervene in a proceeding may do so either in its own right (by demonstrating injury to its organizational interests), or in a representative capacity (by demonstrating harm to the interests of its members).[36] To intervene in a proceeding of its own right, an organization must allege—just as an individual petitioner must—that it will suffer an immediate or threatened injury to its organizational interests that can be fairly traced to the proposed action and be redressed by a favorable decision.[37] General environmental or public policy interests are insufficient to confer organizational standing.[38]

To invoke representational standing, an organization must: (1) show that at least one of its members has standing in his or her own right (*i.e.*, by demonstrating geographic proximity in cases where the presumption applies, or by demonstrating injury-in-fact within the zone of protected interests, causation, and redressability); (2) identify that member by name and address; and (3) show, "preferably by affidavit," that the organization is authorized by that member to request a hearing on behalf of the member.[39]

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[35] *See Fla. Power & Light Co.* (St. Lucie Nuclear Power Plant, Units 1 & 2), CLI-89-21, 30 NRC 325, 329 (1989).

[36] *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 195 (1998) (*citing Ga. Inst. of Tech*. (Ga. Tech Research Reactor, Atlanta, Ga.), CLI-95-12, 42 NRC 111, 115 (1995)).

[37] *See Ga. Tech*, CLI-95-12, 42 NRC at 115.

[38] *See Sierra Club*, 405 U.S. at 730 & 741 (holding that a "special interest in the conservation and the sound maintenance of the national parks, game refuges, and forests of the country" is insufficient to provide organizational standing to a petitioner).

[39] *Consumers Energy Co.* (Palisades Nuclear Power Plant), CLI-07-18, 65 NRC 399, 408-10 (2007); *see also N. States Power Co.* (Monticello Nuclear Generating Plant, Prairie Island Nuclear Generating Plant, Units 1 & 2; Prairie Island Independent Spent Fuel Storage Installation), CLI-00-14, 52 NRC 37, 47 (2000); *GPU Nuclear Inc*. (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 202 (2000).

B. Petitioners Have Demonstrated Representational Standing

Petitioners submitted nine declarations to support their claim of standing.[40] All of these declarants assert that they live within 50 miles of WBN Unit 2.[41] TVA has no reason to dispute the validity of these assertions.

Based on the declarations, TVA does not oppose the representational standing of SACE, TEC, the Sierra Club, WTP and BREDL to intervene in this matter. However, as explained in Section IV.B below, Petitioners TEC, the Sierra Club, WTP and BREDL should be dismissed because their petition to intervene is late and because these Petitioners have not identified an individual authorized to appear before this Board on their behalf, contrary to 10 C.F.R. § 2.314(b).

IV. PETITIONERS HAVE FAILED TO PROFFER AN ADMISSIBLE CONTENTION

A. The Contention Admissibility and Timeliness Criteria of 10 C.F.R. § 2.309

To intervene, a petitioner must propose at least one admissible contention.[42] Under 10 C.F.R. § 2.309(f)(1), a hearing request "must set forth with particularity the contentions sought to be raised." In addition, that section specifies that each contention must provide: (1) a specific statement of the legal or factual issue sought to be raised; (2) a brief explanation of the basis for the contention; (3) a demonstration that the issue raised is within the scope of the proceeding; (4) a demonstration that the issue raised is material to the findings the NRC must make to support the action that is involved in the proceeding; (5) a concise statement of the alleged facts or expert

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[40] *See* Petition, Attach. 1. Petitioners state that "Louis Gorenflo" is a member of SACE and BREDL in their Petition. *See* Petition at 5. However, in the declaration attached to the Petition, "Louise Gorenflo" states that she is a member of SACE and has authorized SACE to represent her interests in this proceeding without mentioning BREDL. *See* Petition, Attach. 1 (Gorenflo Declaration).

[41] Additionally, three assert they are members of TEC, two assert they are members of the Sierra Club, one asserts she is a member of WTP, and the final declarant asserts he is a BREDL member. Each of these declarants authorizes their respective organizations to represent them in this proceeding.

[42] 10 C.F.R. § 2.309(a).

opinions, including references to specific sources and documents that support the petitioner's position and upon which the petitioner intends to rely; and (6) sufficient information to show that a genuine dispute exists with regard to a material issue of law or fact.[43]

The purpose of these six criteria is to "focus litigation on concrete issues and result in a clearer and more focused record for decision."[44] The Board will deny a petition to intervene and request for hearing from a petitioner who has standing, but has not proffered at least one admissible contention.[45] The Commission has stated that it "should not have to expend resources to support the hearing process unless there is an issue that is appropriate for, and susceptible to, resolution in an NRC hearing."[46]

The NRC's contention admissibility rules are, thus, "strict by design."[47] The rules were "toughened . . . in 1989 because in prior years 'licensing boards had admitted and litigated numerous contentions that appeared to be based on little more than speculation.'"[48] In 2004, the NRC implemented additional amendments to the adjudicatory process, continuing its requirement that "well-supported, specific contentions . . . [be submitted] in all proceedings."[49] Thus, failure to comply with any one of the six admissibility criteria is grounds for rejecting a proposed contention.[50] As the Commission recently reiterated, "the initial burden of showing

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43 S*ee* 10 C.F.R. § 2.309(f)(1)(i)-(vi). The seventh contention admissibility requirement—10 C.F.R. § 2.309(f)(1)(vii)—only is applicable in proceedings arising under 10 C.F.R. § 52.103(b) and, therefore, has no bearing on the admissibility of Petitioners' proposed contentions in this proceeding.

44 Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2202 (Jan. 14, 2004) (final rule).

45 *Fla. Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), CLI-01-17, 54 NRC 3, 26 (2001).

46 Changes to Adjudicatory Process, 69 Fed. Reg. at 2202.

47 *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 & 3), CLI-01-24, 54 NRC 349, 358 (2001).

48 *Id.*

49 Changes to Adjudicatory Process, 69 Fed. Reg. at 2188.

50 *See* Changes to Adjudicatory Process, 69 Fed. Reg. at 2221; *see also Private Fuel Storage, L.L.C.* (Indep. Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999).

whether the contention meets our admissibility standards" lies with the petitioner.[51] The legal principles governing each of the six pertinent criteria in 10 C.F.R. § 2.309(f)(1) are discussed briefly below.

In addition to meeting the six criteria in 10 C.F.R. § 2.309(f)(1), a petitioner who submits a nontimely request for hearing must address the factors of 10 C.F.R. § 2.309(c)(1), in its nontimely filing.[52] A Licensing Board will not entertain a nontimely filing absent a determination upon balancing the factors in Section 2.309(c)(1) that the late filing should be admitted.[53] A late petition that fails to address these factors may be summarily rejected.[54]

1. Petitioner Must Specifically State the Issue of Law or Fact to Be Raised.

A petitioner must "articulate at the outset the specific issues [it] wish[es] to litigate as a prerequisite to gaining formal admission as [a party]."[55] Namely, an admissible contention must explain, with specificity, "particular safety or legal reasons requiring rejection of the contested [application]."[56] The contention rules "bar contentions where petitioners have only 'what amounts to generalized suspicions, hoping to substantiate them later.'"[57]

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[51] *Progress Energy Carolinas, Inc.* (Shearon Harris, Units 2 and 3), CLI-09-08, slip op. at 9 (May 18, 2009).

[52] *See* 10 C.F.R. § 2.309(c)(2).

[53] *See id.* § 2.309(c)(1). A petitioner must address: (1) good cause for failure to file on time; (2) the nature of its right to be made a party to the proceeding; (3) the nature and extent of the petitioner's property, financial or other interest in the proceeding; (4) the possible effect of an order on the petitioner's interest; (5) whether other means are available to protect the petitioner's interest; (6) the extent to which the petitioner's interest will be represented by existing parties; (7) the extent to which the petitioner's participation will broaden the issues or delay the proceeding; and (8) the extent to which the petitioner's participation may reasonably be expected to assist in developing a sound record.

[54] *See AmerGen Energy Company, L.L.C.* (Oyster Creek Nuclear Generating Station), CLI-09-07, slip op. at 32 (Apr. 1, 2009) ("[F]ailure to comply with our pleading requirements for late filings constitutes sufficient grounds for rejecting . . . intervention and hearing requests.") (*quoting Fla. Power & Light Co.* (Calvert Cliffs Nuclear Plant, Units 1 and 2, *et al.*), CLI-06-21, 64 NRC 30, 33 (2006)).

[55] *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, & 3), CLI-99-11, 49 NRC 328, 338 (1999); *see also* 10 C.F.R. § 2.309(f)(1)(i).

[56] *Millstone,* CLI-01-24, 54 NRC at 359-60.

[57] *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-03-17, 58 NRC 419, 424 (2003) (*quoting Oconee*, CLI-99-11, 49 NRC at 337-39).

2. Petitioner Must Briefly Explain the Basis for the Contention.

A petitioner must provide "a brief explanation of the basis for the contention."[58] This includes "sufficient foundation" to "warrant further exploration."[59] The petitioner's explanation serves to define the scope of a contention, as "[t]he reach of a contention necessarily hinges upon its terms coupled with its stated bases."[60] The Board, however, must determine the admissibility of the contention itself, not the admissibility of individual "bases."[61]

As the Commission has observed, "[i]t is the responsibility of the Petitioner to provide the necessary information to satisfy the basis requirement for the admission of its contentions and demonstrate that a genuine dispute exists within the scope of [the] proceeding."[62] In other words, "[a] contention's proponent, not the licensing board, is responsible for formulating the contention and providing the necessary information to satisfy the basis requirement for the admission of contentions."[63]

3. Contentions Must Be Within the Scope of the Proceeding.

A petitioner must demonstrate "that the issue raised in the contention is within the scope of the proceeding."[64] The scope of the proceeding is defined by the Commission's notice of opportunity for a hearing.[65] Moreover, contentions are necessarily limited to issues that are

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58 10 C.F.R. § 2.309(f)(1)(ii); *see* Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,170 (Aug. 11, 1989) (final rule).

59 *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), ALAB-942, 32 NRC 395, 428 (1990) (citation omitted).

60 *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), ALAB-899, 28 NRC 93, 97 (1988), *aff'd sub nom., Massachusetts v. NRC*, 924 F.2d 311 (D.C. Cir. 1991).

61 *See La. Energy Servs., L.P.* (Nat'l Enrichment Facility), LBP-04-14, 60 NRC 40, 57 (2004) ("licensing boards generally are to litigate 'contentions' rather than 'bases'") (citation omitted).

62 *Balt. Gas & Elec. Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 & 2), CLI-98-14, 48 NRC 39, 41 (1998).

63 *Statement of Policy on Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 NRC 18, 22 (1998).

64 10 C.F.R. § 2.309(f)(1)(iii).

65 *See Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), ALAB-825, 22 NRC 785, 790-91 (1985).

germane to the specific application pending before the Licensing Board.[66] Any contention that falls outside the specified scope of the proceeding must be rejected.[67]

A contention that challenges an NRC rule is outside the scope of the proceeding because, absent a waiver, "no rule or regulation of the Commission . . . is subject to attack . . . in any adjudicatory proceeding."[68] Furthermore, a contention that raises a matter that is, or is about to become, the subject of a rulemaking, is also outside the scope of this proceeding.[69] This includes contentions that advocate stricter requirements than agency rules impose or that otherwise seek to litigate a generic determination established by a Commission rulemaking.[70]

Similarly, any contention that collaterally attacks applicable statutory requirements or the basic structure of the NRC regulatory process must be rejected by the Board as outside the scope of the proceeding.[71] Accordingly, a contention that simply states the petitioner's views about

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66 *See Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 204 (1998).

67 *See Portland Gen. Elec. Co.* (Trojan Nuclear Plant), ALAB-534, 9 NRC 287, 289 n.6 (1979) (affirming the Board's rejection of issues raised by intervenors that fell outside the scope of issue identified in the notice of hearing).

68 10 C.F.R. § 2.335(a).

69 *See Oconee*, CLI-99-11, 49 NRC at 345 (*citing Potomac Elec. Power Co.* (Douglas Point Nuclear Generating Station, Units 1 & 2), ALAB-218, 8 AEC 79, 85 (1974)) (affirming the Board's rejection of a contention regarding the transportation of spent fuel rods because it was the subject of a pending rulemaking); *see also* Licensing Board Memorandum and Order (Ruling on Request to Admit New Contention) at 12, *Tenn. Valley Auth.* (Bellefonte Nuclear Power Plant Units 3 & 4), Nos. 52-014-COL & 52-015-COL (Apr. 29, 2009) ("April 29, 2009 *Bellefonte* Order") (stating that a contention "that seeks to litigate a matter that is, or clearly is about to become, the subject of a rulemaking is inadmissible . . . as a matter outside the scope of the proceeding"); Conduct of New Reactor Licensing Proceedings, Final Policy Statement, 73 Fed. Reg. 20,963, 20,972 (Apr. 17, 2008) (referring to the Commission's "longstanding precedent that 'licensing boards should not accept in individual license proceedings contentions which are (or are about to become) the subject of general rulemaking by the Commission'") (citation omitted).

70 *See Fla. Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), LBP-01-6, 53 NRC 138, 159-60, *aff'd*, CLI-01-17, 54 NRC 3 (2001) (rejecting the petitioner's contention that a license renewal applicant was required to prepare a probabilistic risk assessment ("PRA"), where the Commission's license renewal regulations did not require a PRA).

71 *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant, Unit 1), LBP-07-11, 66 NRC 41, 57-58 (2007) (stating that a contention that attacks applicable statutory requirements "must be rejected by a licensing board as outside the scope of the proceeding") (*citing Phila. Elec. Co.* (Peach Bottom Atomic Power Station, Units 2 & 3), ALAB-216, 8 AEC 13, 20 (1974)).

regulatory policy—or takes issue with the nature of existing regulations—does not present a litigable issue.[72]

4. Contentions Must Raise a Material Issue.

A petitioner must demonstrate "that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding."[73] The standards defining the findings that the NRC must make to support issuance of an OL in this proceeding are set forth in 10 C.F.R. §§ 50.57, 51.105 and 51.106. As the Commission has observed, "[t]he dispute at issue is 'material' if its resolution would 'make a difference in the outcome of the licensing proceeding.'"[74] In this regard, each contention must be one that, if proven, would entitle the petitioner to relief.[75] Additionally, contentions alleging an error or omission in an application must establish some significant link between the claimed deficiency and protection of the health and safety of the public or the environment.[76]

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[72] *See Peach Bottom*, ALAB-216, 8 AEC at 20-21. Within the adjudicatory context, however, a petitioner may submit a request for waiver of a rule under 10 C.F.R. § 2.335(b). Conversely, outside the adjudicatory context, a petitioner may file a petition for rulemaking under 10 C.F.R. § 2.802 or request that the NRC Staff take enforcement action under 10 C.F.R. § 2.206.

[73] 10 C.F.R. § 2.309(f)(1)(iv).

[74] *Oconee*, CLI-99-11, 49 NRC at 333-34 (*citing* Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,172).

[75] *See Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-26, 56 NRC 358, 363 n.10 (2002) (stating that an issue is material "only if it would entitle petitioner to relief").

[76] *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 & 3), LBP-04-15, 60 NRC 81, 89, *aff'd*, CLI-04-36, 60 NRC 631 (2004) (stating that a contention that alleges a deficiency or error in the application must show that the deficiency or error has "some independent health and safety significance").

5. Contentions Must Be Supported by Adequate Factual Information or Expert Opinion.

A petitioner bears the burden to present the factual information or expert opinions necessary to support its contention adequately, and failure to do so requires the Board to reject the contention.[77] The petitioner's obligation in this regard has been described as follows:

> [A]n intervention petitioner has an *ironclad obligation* to examine the publicly available documentary material pertaining to the facility in question with sufficient care to enable [the petitioner] to uncover any information that could serve as the foundation for a specific contention. Stated otherwise, neither Section 189a. of the Act nor Section [2.309] of the Rules of Practice permits the filing of a vague, unparticularized contention, followed by an endeavor to flesh it out through discovery against the applicant or staff.[78]

Where a petitioner neglects to provide the requisite support for its contentions, the Board may not make assumptions of fact that favor the petitioner or supply information that is lacking.[79] The petitioner must explain the significance of any factual information upon which it relies.[80]

With respect to factual information or expert opinion proffered in support of a contention, "the Board is not to accept uncritically the assertion that a document or other factual information

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[77] *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 262 (1996). *See* 10 C.F.R. § 2.309(f)(1)(v).

[78] *Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), ALAB-687, 16 NRC 460, 468 (1982), *vacated in part on other grounds*, CLI-83-19, 17 NRC 1041 (1983) (emphasis added).

[79] *See Crow Butte Res., Inc.* (North Trend Expansion Area), CLI-09-12, slip op. at 22 (June 25, 2009) ("[A] board should not add material not raised by a petitioner in order to render a contention admissible"); *Ariz. Pub. Serv. Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, & 3), CLI-91-12, 34 NRC 149, 155 (1991) (rejecting petitioners' basis for a contention, where the Board inferred information that was not presented in the proposed contention).

[80] *See Fansteel, Inc.* (Muskogee, Okla., Site), CLI-03-13, 58 NRC 195, 204-05 (2003) (rejecting a contention regarding decommissioning funding assurance where petitioner relied on its brief reference to applicant's "Disclosure Statement and Reorganization" without explaining how that document undermined the applicant's assurance of funding).

or an expert opinion supplies the basis for a contention."[81] In addition, "an expert opinion that merely states a conclusion (e.g., the application is 'deficient,' 'inadequate,' or 'wrong') without providing *a reasoned basis or explanation* for that conclusion is inadequate because it deprives the Board of the ability to make the necessary, reflective assessment of the opinion" as it is alleged to provide a basis for the contention.[82]

Any supporting material provided by a petitioner, including those portions thereof not relied upon, is subject to Board scrutiny, "both for what it does and does not show."[83] The Board will examine documents to confirm that they support the proposed contentions.[84] A petitioner's imprecise reading of a document cannot be the basis for a litigable contention.[85] Moreover, vague references to documents do not suffice—the petitioner must identify specific portions of the documents on which it relies.[86] The mere incorporation of massive documents by reference is unacceptable.[87]

6. Contentions Must Raise a Genuine Dispute of Material Law or Fact.

The Commission has stated that the petitioner must "read the pertinent portions of the license application . . . state the applicant's position and the petitioner's opposing view," and

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[81] *Private Fuel Storage, L.L.C.* (Indep. Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 181, *aff'd* CLI-98-13, 48 NRC 26 (1998) ("PFS").

[82] *USEC, Inc.* (Am. Centrifuge Plant), CLI-06-10, 63 NRC 451, 472 (2006) (emphasis added) (*quoting PFS*, LBP-98-7, 47 NRC at 181).

[83] *See Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 90, *rev'd in part on other grounds*, CLI-96-7, 43 NRC 235 (1996).

[84] *See Vt. Yankee Nuclear Power Corp.* (Vt. Yankee Nuclear Power Station), ALAB-919, 30 NRC 29, 48 (1989), *vacated in part on other grounds and remanded*, CLI-90-4, 31 NRC 333 (1990).

[85] *See Ga. Inst. of Tech.* (Ga. Tech Research Reactor, Atlanta, Ga.), LBP-95-6, 41 NRC 281, 300, *aff'd*, CLI-95-12, 42 NRC 111 (1995).

[86] *Pub. Serv. Co. of N.H* . (Seabrook Station, Units 1 & 2), CLI-89-3, 29 NRC 234, 240-41 (1989).

[87] *Id.*; *see also Tenn. Valley Auth.* (Browns Ferry Nuclear Plant, Units 1 & 2), LBP-76-10, 3 NRC 209, 216 (1976).

explain why it disagrees with the applicant.[88] If a petitioner believes the license application fails to adequately address a relevant issue, then the petitioner is to "explain why the application is deficient."[89] A contention that does not directly controvert a position taken by the applicant in the application is subject to dismissal.[90] Similarly, a petitioner's oversight does not raise a genuine issue. For example, if a petitioner submits a contention of omission, but the allegedly missing information is indeed in the license application, then the contention does not raise a genuine issue.[91]

Further, an allegation that some aspect of a license application is "inadequate" or "unacceptable" does not establish a genuine dispute unless it is supported by facts and a reasoned statement of why the application is unacceptable in some material respect.[92] Thus, in order to raise a genuine dispute with an applicant's analysis, a petitioner must make at least a "minimal demonstration" that the "analysis fails to meet a statutory or regulatory requirement."[93]

B. None of Petitioners' Proposed Contentions Meet the Admissibility Criteria of 10 C.F.R. § 2.309(f)(1)

As an initial matter, Petitioners TEC, WTP, the Sierra Club and BREDL should be dismissed because their petition to intervene is late, contrary to 10 C.F.R. § 2.309(c), and because these Petitioners have not identified an individual authorized to appear on their behalf in this proceeding, contrary to 10 C.F.R. § 2.314(b). As already noted, the Hearing Notice

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88 Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *see also Millstone*, CLI-01-24, 54 NRC at 358.

89 Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *see also Palo Verde*, CLI-91-12, 34 NRC at 156.

90 *See Tex. Utils. Elec. Co.* (Comanche Peak Steam Electric Station, Unit 2), LBP-92-37, 36 NRC 370, 384 (1992), *vacating as moot*, CLI-93-10, 37 NRC 192 (1993).

91 *See Millstone*, LBP-04-15, 60 NRC at 95.

92 *See Fla. Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), LBP-90-16, 31 NRC 509, 521, 521 n.12 (1990).

93 *See Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3), LBP-08-13, slip op. at 183 (July 31, 2008).

explicitly required any person who wished to participate as a party to file a written request for a hearing and petition to intervene by June 30, 2009.[94] The Commission's June 24 extension order applied *only* to SACE's request for an extension.[95]

In a piggyback maneuver, however, TEC, WTP, the Sierra Club, and BREDL, hopped on the back of SACE and filed the instant joint Petition on July 13, 2009—13 days after the published deadline. Unlike SACE, these organizations sought no prior leave for an extension of time—nor have they even now justified their tardiness. The Petition does not address, or even mention, the eight factors required by 10 C.F.R. § 2.309(c)(1) governing nontimely filings. Given this obvious end-run around the Commission's deadline in the Notice of Hearing and the requirements of Section 2.309(c), TEC, WTP, the Sierra Club, and BREDL should not be permitted to intervene in this proceeding.[96]

Additionally, no individual has filed a Notice of Appearance on behalf of TEC, WTP, the Sierra Club or BREDL.[97] Thus, contrary to 10 C.F.R. § 2.314(b), there is no evidence before the Board that counsel for SACE, who signed the Petition, is authorized to appear on behalf of these additional Petitioners in this proceeding.[98] Thus, TEC, WTP, the Sierra Club and BREDL have

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94 *See* 74 Fed. Reg. at 20,351.

95 Commission Order at 1 (June 24, 2009) (unpublished) ("*Southern Alliance for Clean Energy* has filed a request to extend the time period within which *it* may request a hearing . . . . [T]his request is granted.") (emphasis added); *cf.* Commission Order at 3, *Tenn. Valley Auth.* (Bellefonte Nuclear Power Plant, Units 3 and 4), Nos. 52-014 & 52-015 (April 7, 2008) (unpublished) (granting a 60-day extension of time to "interested persons to file a petition to intervene" based on one specific petitioner's request for an extension of time).

96 *See Oyster Creek*, CLI-09-07, slip op. at 32 (stating that "[f]ailure to comply with our pleading requirements for late filings constitutes sufficient grounds for rejecting . . . intervention and hearing requests") (citations omitted).

97 As noted herein, counsel for SACE has noticed their appearances, but only on behalf of SACE. *See* Notice of Appearance by Matthew Fraser (July 13, 2009); Notice of Appearance by Diane Curran (June 16, 2009).

98 *See Ga. Power Co.* (Vogtle Elec. Generating Plant, Units 1 & 2), LBP-90-29, 32 NRC 89, 92 (1990) (finding that a "group must demonstrate that it has authorized the particular representative appearing before us . . . to represent the group's interest"); *see also N. States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 & 2), LBP-08-26, slip op. at 8 (Dec. 5, 2008) (ruling that an attorney's Notice of Appearance can meet the requirements of Section 2.314(b)).

not authorized any individual—including Ms. Curran or Mr. Fraser—to appear on their behalf before this Board.

For these two threshold reasons, TEC, WTP, the Sierra Club, and BREDL should be denied intervention.

1. Proposed Contention 1 (Failure to List and Discuss Compliance with Required Federal Permits, Approvals, and Regulations) Is Inadmissible Because It is Unsupported by Facts, Fails to Raise a Genuine Dispute on a Material Issue, and Is Outside the Scope of This Proceeding.

a. Overview of Contention and Supporting Bases

Proposed Contention 1 asserts as follows:

> TVA's FSEIS is inadequate to satisfy 10 C.F.R. §§ 51.53(b) and 51.45(d) because the document fails to list or discuss the status of its compliance with permits, approvals and environmental standards. Petitioners are aware of at least two such permits or approvals that should be but are not listed in the FSEIS, and there may be more of which Petitioners are unaware.[99]

Petitioners generally contend that TVA failed to comply with 10 C.F.R. § 51.45(d) by "neglecting to discuss, or even list, the approvals, permits and standards that it must comply with prior to being issued an operating license."[100] The only such purportedly-missing approvals even remotely identified by Petitioners are (1) compliance with a 1991 agreement between TVA and several other Federal and Tennessee state agencies for an interagency review of certain classes of proposed activities in the Watts Bar Reservoir area ("1991 Interagency Agreement"), and (2) the "status of [TVA's] National Pollution Discharge Elimination System ("NPDES") permit for wastewater discharges from WBN into the Tennessee River."[101] Relative to the latter,

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[99] Petition at 6.

[100] *Id.* at 7.

[101] *Id.* at 7-8 (*citing* Petition Attach. 2, Interagency Agreement, Watts Bar Reservoir Permit Coordination (Feb. 1991) ("1991 Interagency Agreement"); State of Tennessee, NPDES Permit No. TN0020168 (Feb. 8, 2005)).

Petitioners contend that "under the plain language of NRC's NEPA regulations, TVA's EIS must discuss the fact that the [NPDES] permit is expired, and explain the status of its application for reissuance of the permit, including whether TVA is in compliance with the terms of the expired permit under which it remains bound."[102] Finally, Petitioners vaguely allege that TVA's 2007 FSEIS should list and discuss all "other federal permits, approvals, and environmental quality standards applicable to WBN Unit 2 of which Petitioners are unaware"[103] – providing absolutely no fact or detail to support this generalized, non-specific claim.[104]

b. Proposed Contention 1 Is Not Admissible and Should be Dismissed

As an *initial* matter, TVA agrees that an applicant is required to include a list of "all Federal permits, licenses, approvals and other entitlements *which must be obtained in connection with the proposed action*," and include a description of the status of its compliance with these requirements in its environmental report.[105] An applicant also is required to include "a discussion of the status of compliance with *applicable* environmental quality standards and requirements including, but not limited to, *applicable* zoning and land-use regulations, and thermal and other water pollution limitations or requirements which have been imposed by Federal, State, regional and local agencies having responsibility for environmental protection."[106]

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[102] *Id.* at 8.

[103] *Id*.

[104] Petitioners' general argument that there *may be* more permits or approvals that should be listed must be rejected for a lack of specificity and failure to read or reference the relevant sections of the 2007 FSEIS, or TVA 1995b. *See* 10 C.F.R. § 2.309(f)(1)(i)(requiring a "specific statement of the issue of law or fact to be raised or controverted"); *Millstone*, CLI-01-24, 54 NRC at 359-60 (stating that an "admissible contention must explain, *with specificity*, particular safety or legal reasons requiring rejection of the contested [application]") (emphasis added); *Millstone*, LBP-04-15, 60 NRC at 95-96 (rejecting contention for failure to specifically identify alleged deficiencies in application and petitioners' failure to "read or perform any analysis of the applications"); *Ga. Tech.*, LBP-95-6, 41 NRC at 300 (finding that a "petitioner's imprecise reading of a reference document cannot serve to generate an issue suitable for litigation"). Accordingly, TVA addresses below only Petitioners' arguments relating to the 1991 Interagency Agreement and NPDES permit.

[105] 10 C.F.R. § 51.45(d) (emphasis added); *see* 10 C.F.R. § 51.53(b).

[106] 10 C.F.R. § 51.45(d) (emphasis added).

An applicant for an operating license, however, must discuss matters listed in Section 51.45 in its environmental report, "*only to the extent that they differ* from those discussed or reflect new information in addition to that discussed in the final environmental impact statement prepared by the Commission in connection with the construction permit."[107]

These regulations do not exist in a void. The NRC's Environmental Standard Review Plan ("ESRP" or "NUREG-1555") states that, as a part of the NRC review process, the determination of what type of data and information should be included in a list of the environmentally-related authorizations "will be affected by site- and station-specific factors, and the degree of detail should be modified according to the anticipated magnitude of the potential impacts."[108] As explained below, TVA fully satisfied these regulations—as well as the Staff's expectations in the ESRP—in its 2007 FSEIS and in TVA 1995b.

(i) Petitioners' Assertion that TVA Is Required to Address the 1991 Interagency Agreement in the 2007 FSEIS Does Not Support Admission of this Proposed Contention

Petitioners' first basis for Proposed Contention 1, that TVA is required to address the 1991 Interagency Agreement in the 2007 FSEIS, is deficient because it is unsupported by facts or expert opinion. At the heart of this argument lies Petitioners' claim that the 1991 Interagency Agreement applies to WBN Unit 2,[109] supposedly because TVA "is undertaking at least one category of action that is listed in the [1991 Interagency Agreement] as a [potential major sediment disturbance]: fixed water intake for commercial or industrial purposes."[110] Based on

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[107] 10 C.F.R. § 51.53(b) (emphasis added).

[108] NUREG-1555, at 1.2-2.

[109] Petition at 7.

[110] *Id.* at 8.

this flawed premise, Petitioners next aver that TVA must submit a proposal to a working group for review pursuant to the 1991 Interagency Agreement.[111]

Petitioners' interpretation is unsupported by the facts because TVA is not undertaking any action that affects fixed water intake from those areas of Watts Bar Reservoir governed by the 1991 Interagency Agreement as part of this OL proceeding. The 1991 Interagency Agreement simply is not relevant to any activities within the scope of this OL proceeding. As explained below, Section 51.45(d) does not require TVA to list or discuss its "compliance with [a] 1991 [Interagency A]greement" as part of the 2007 FSEIS.[112]

By way of background, the purpose of the 1991 Interagency Agreement is to coordinate the review of "permitting and other use authorization activities" of TVA and the U.S. Army Corps of Engineers which could result in the "disturbance, resuspension, removal and/or disposal of contaminated sediments . . . in the Watts Bar Reservoir."[113] It is axiomatic that TVA would not obtain any permit authorization from itself, leaving any permit approval from the U.S. Army Corps of Engineers as the only trigger for applicability of the 1991 Interagency Agreement. Based on the fact that no construction activities would occur within 500 feet of the reservoir,[114] no permit authorization would be necessary from the U.S. Army Corps of Engineers. Further, the 1991 Interagency Agreement explicitly applies to the Watts Bar Reservoir, including those portions of the Tennessee River "from Mile 529.9 (Watts Bar Dam) to Mile 569.0 (Webster Bluff Light)."[115] As demonstrated by Figure 2-1 of the 2007 FSEIS, the only water intake structure on the Watts Bar Reservoir potentially affected by the addition of WBN Unit 2 is the

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111 *See id.*

112 *Id.* at 7.

113 *Id.*; 1991 Interagency Agreement at 2.

114 2007 FSEIS at 30 (Table 2-1, "Aquatic Ecology").

115 1991 Interagency Agreement at 3.

supplemental condenser cooling water system ("SCCW") intake structure,[116] located at Tennessee River mile ("TRM") 529.9.[117] As the 2007 FSEIS notes:

> The SCCW system currently serves Unit 1. With the combined operation of Unit 1 and Unit 2, the SCCW system would serve both units. While some modifications to the SCCW system would be required for combined operation . . . these modifications would be limited to installed plant systems and *would not change the volume of water delivered and removed by the SCCW system.*[118]

Additionally, Section 2.1 of the 2007 FSEIS, which lists the actions required to complete and operate WBN Unit 2, does not include any work on the SCCW.[119] Importantly, Petitioners do not challenge, or even cite to, this discussion in TVA's 2007 FSEIS.[120]

Operation of WBN Unit 2 would result in a 33 percent increase in water intake, but that change would occur through a different structure—the intake pumping station ("IPS") located at TRM 528.0, which is about 1.9 miles *below* the Watts Bar Dam[121] and in an area of the Tennessee River not covered by the 1991 Interagency Agreement. As explained above, operation of WBN Unit 2 will *not* disturb the Watts Bar Reservoir or change TVA's fixed water intake from the Watts Bar Reservoir (or included portions of the Tennessee River subject to the 1991 Interagency Agreement) in any manner, much less create any obligation to obtain a permit

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116 2007 FSEIS at 22.

117 *Id.* at 21.

118 *Id.* at 37 (emphasis added); *see also id.* at 20 (stating that to complete WBN Unit 2, "[n]o new water intakes or outfalls are needed"); 163 (stating that "[c]urrent plans are to enable supplemental cooling water to be shared by both units, but there currently are no plans to increase the flow capacity of the SCCW system beyond the original design basis"); 202 (stating that "[n]o new intake or outfall structures would be built," and that "the arrangement of the SCCW system will be adapted so that the amount of water and heat released by the plant through Outfalls 101, 102, and 113 will not be significantly different from the current design basis for these outfalls"); 210 (stating that "[o]peration of the SCCW system is not expected to increase if WBN Unit 2 is completed" and "intake and discharge flows for the SCCW would not increase if Unit 2 were to be completed").

119 *See id.* at 20.

120 *See* Petition at 7-8.

121 2007 FSEIS at 21-23 & 29.

authorization from the U.S. Army Corps of Engineers. As a result, the 1991 Interagency Agreement is not applicable to this licensing action. Again, Petitioners ignore this directly applicable provision in the 1991 Interagency Agreement.

Petitioners fail to take into account any of the above-mentioned discussions of the SCCW intake structure in TVA's 2007 FSEI, and they ignore the relevant provisions of the 1991 Interagency Agreement.[122] Therefore, their first basis for Proposed Contention 1 is unsupported by alleged facts or expert opinion, contrary to 10 C.F.R. § 2.309(f)(1)(v), fails to demonstrate a genuine dispute on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi), and is outside the scope of this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii).

(ii) Petitioners' Claim that the 2007 FSEIS is Inadequate Because It Contains No Discussion of the NPDES Permit is Devoid of Merit

Petitioners' second purported basis for Proposed Contention 1 is that TVA "must discuss the fact that the [NPDES (Permit No. TN0020168)] permit expired, and explain the status of its application for reissuance of the permit, including whether TVA is in compliance with the terms of the expired permit under which it remains bound," and that TVA's failure to do so renders the 2007 FSEIS analysis inadequate.[123]

Here again, Petitioners fail to present a genuine dispute on a material issue because the NPDES permit information that they claim is missing *is* addressed in *multiple* sections of the 2007 FSEIS—none of which are acknowledged or cited by Petitioners. Petitioners inexplicably either failed to review, or ignored, this information. As explained below, in the 2007 FSEIS, TVA addresses the status of its existing NPDES permit by stating that it "applied to renew the

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[122] *See* Petition at 6-8.

[123] *See id.* at 8.

WBN permit [or NPDES permit] in May 2006."[124] WBN Unit 1 operations continue under this existing permit, which remains effective by virtue of the timely renewal doctrine.[125] At a later time, in connection with the completion of construction and operation of WBN Unit 2, TVA will apply for the appropriate modification to the existing NPDES permit to address two-unit operations. As noted in the 2007 FSEIS, even after the addition of WBN Unit 2, discharges from the plant will be within the limits of the current NPDES permit.[126]

The following table summarizes each of the many references to the NPDES permit in TVA's 2007 FSEIS:

2007 FSEIS Section	Brief Summary of NPDES Permit Related Information
Summary	Discusses compliance with existing NPDES permit limits with respect to Surface Water Quality and Aquatic Ecology.
Section 1.5 (Environmental Permits and Approvals)	Incorporates by reference a table of existing WBN environmental permits and approvals contained in Section 1.3 of TVA 1995b. This table includes TVA's NPDES permit and TVA acknowledges that the construction and operation of WBN Unit 2 "may require that some of these permits be amended and additional approvals obtained."[127]
Section 2.2.2 (Heat Dissipation System)	Discusses measures taken to prevent exceeding temperature limits in the Tennessee River as established by the NPDES permit.

[124] 2007 FSEIS at 46.

[125] The timely renewal doctrine is codified in the Tennessee Administrative Procedures Act, *see* Tenn. Code. Ann. § 4-5-320(b), and in the state's NPDES regulations. *See* Tenn. Comp. R. & Regs. § 1200-4-5-.11(2). Petitioners tacitly acknowledge that the timely renewal doctrine applies here and that the Tennessee Department of Environment and Conservation ("TDEC") is currently reviewing TVA's renewal application for the NPDES permit. *See* Petition at 8 (stating that "[a]lthough TEDC is currently reviewing TVA's application for re-issuance of the permit, the new permit has not yet been issued. TVA remains bound, however, by the terms of the expired permit until the new permit is issued.").

[126] *See* 2007 FSEIS at S-2 (noting that increases in water intake, essential raw cooling water, raw cooling water chemical additives and towerbrom treatment for Condensing Cooling Water would not "affect compliance with existing NPDES effluent limitations that protect aquatic resources"), S-3 (discharge changes resulting from completion of WBN Unit 2 remain within existing NPDES limits), 55 & 59 (both pages stating that there would be "[n]o discharges exceeding current NPDES limits . . . during operation of WBN Units 1 and 2").

[127] 2007 FSEIS at 10.

2007 FSEIS Section	Brief Summary of NPDES Permit Related Information
	Discusses renewal of NPDES permit in November 2004 and current discharge temperature limits.
Section 2.4 (Summary of Environmental Effects)	Discusses compliance with current NPDES limits.
Section 3.0 (Changes in the Affected Environment and Environmental Consequences)	Discusses NPDES permit and its monitoring requirements.
Section 3.1.1 (Surface Water – Hydrothermal Effects)	Discusses current NPDES permit limits for river temperature for various WBN outfalls.
Section 3.1.2 (Surface Water – Chemical Additives to Raw Water)	Discusses TVA's submittal of a renewal application for the NPDES permit in May 2006 and current NPDES permit provisions relating to Biocide and Corrosion Treatment Plant and use of water treatment chemicals.
Section 3.2 (Aquatic Ecology)	Discusses current NPDES discharge limits and that operation of WBN Units 1 and 2 will not result in any discharges that exceed the current NPDES discharge limits.
Section 3.4.1 (Aquatic Animals)	Discusses current NPDES discharge limits and that operation of WBN Units 1 and 2 will not result in any discharges that exceed the current NPDES discharge limits.
Section 3.14 (Radioactive Waste)	Discusses NPDES permit requirements for releases from liquid radioactive waste treatment systems.
Chapter 6 (Supporting Information)	Lists NPDES Permit effective and expiration dates.

As demonstrated above, the 2007 FSEIS fully discusses the NPDES permit cited by Petitioners and, in fact, addresses each aspect of the permit that Petitioners assert is missing. Petitioners do not challenge, or even reference, any of this information or state why it is inadequate.[128] As a result, Petitioners' second basis for Proposed Contention 1 is unsupported by the facts, contrary

[128] *See Palo Verde*, CLI-91-12, 34 NRC at 156 (affirming the rejection of a contention in which petitioners did not challenge specific portions of the application to support an assertion that the licensee's discussion of High Pressurizer Pressure Trip response time was insufficient); *Millstone*, LBP-04-15, 60 NRC at 95-96 (rejecting contention for failure to specifically identify alleged deficiencies in application and petitioners' failure to "read or perform any meaningful analysis of the applications").

to 10 C.F.R. § 2.309(f)(1)(v), and does not present a genuine dispute on a material issue of fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

For the reasons set forth above, Proposed Contention 1 should be dismissed in its entirety.

2. Proposed Contention 2 (SAMA Uncertainty Analysis) Is Inadmissible Because It Is Inadequately Supported and Raises No Genuine Dispute with TVA's SAMA Analysis.

a. Overview of Contention

The Petitioners contend that TVA's Severe Accident Mitigation Alternatives ("SAMA") Analysis[129] for WBN Unit 2:

> is inadequate to satisfy NEPA and 10 C.F.R. § 51.53(b) with respect to consideration of alternatives to mitigate the consequences of severe accidents. The SAMA's uncertainty analysis does not fully account for the sensitivity of its results with regard to uncertainties in Level 3 parameters, such as meteorological conditions and radionuclide release fractions. Full consideration of Level 3 uncertainties would have a significant impact on the cost of a severe accident and could increase the number of SAMAs that would be cost-beneficial.[130]

By way of background, the probabilistic risk assessment ("PRA") technique used in TVA's SAMA analysis includes a "Level 3" analysis intended to provide probabilistic analyses of the radiological impacts of severe accidents.[131] The PRA is used to calculate the consequences resulting from radionuclide releases to the environment under various severe accident scenarios.[132] Proposed Contention 2 alleges that TVA's consideration of "Level 3" uncertainties in its SAMA analysis is deficient because TVA has not adequately considered

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[129] Final Watts Bar Unit 2 SAMA Report (Jan. 21, 2009), *available at* ADAMS Accession No. ML090360589 ("SAMA Analysis").

[130] Petition at 9.

[131] *See* SAMA Analysis at 7.

[132] Petition at 9.

purported uncertainties associated with: (a) meteorological conditions, and (b) radionuclide release fractions.[133]

In support of this proposed contention, the Petitioners first point to a statement in TVA's SAMA Analysis: "Sensitivity cases were run for the following conditions to assess their impact on the overall SAMA evaluation: . . . [using] the 95th percentile PRA results in place of the mean PRA results."[134] The Petitioners then claim that this statement "is not correct," because it only applies to TVA's Level 1 and Level 2 PRA analyses, as opposed to Level 3.[135] The Petitioners, however, then abruptly reverse course and admit that "TVA does not claim to have used the 95th percentile PRA results for consideration of Level 3 uncertainties."[136] Thus, it is clear from TVA's SAMA Analysis and from Proposed Contention 2 itself that the sentence Petitioners initially cite in support of this contention *does not* apply to Level 3 PRA uncertainties in TVA's SAMA Analysis. Therefore, as an initial matter, the alleged "[in]correct" statement cited by Petitioners is not a valid basis for this proposed contention.[137]

Beyond this obvious false start, Petitioners provide two other purported bases for Proposed Contention 2. First, they allege that TVA's SAMA Level 3 PRA uncertainty analysis improperly uses the mean data for meteorological conditions, rather than the 95th percentile data (*i.e.*, the statistically worst-case meteorological conditions). Allegedly, this practice is inconsistent with a study performed by their "expert," Dr. Lyman, for another facility (Indian

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133 *Id*.

134 *Id*. at 10 (*quoting* SAMA Analysis at 29-30).

135 Petition at 10. Briefly, a Level 1 PRA is used to evaluate core damage sequences and a Level 2 PRA is used to evaluate the release characteristics associated with severe accidents. *See* SAMA Analysis at 8.

136 Petition at 10.

137 *See*, *e.g.*, *Ga. Tech*, LBP-95-06, 41 NRC at 300 (holding that a petitioner's imprecise reading of a document cannot be the basis for a litigable contention).

Point).[138] According to Petitioners, Dr. Lyman's *Indian Point* study shows that by using mean rather than 95th percentile meteorological data, *TVA* has underestimated the consequences of a severe accident by a factor of 3 or 4.[139] Petitioners allege that many additional SAMAs would become cost-beneficial if Dr. Lyman's approach were used instead of TVA's.[140] Notably, the Petitioners cite to no regulation or NRC guidance document that requires or even advises that meteorological uncertainty should be evaluated in the specific manner advocated by Dr. Lyman.

Second, Petitioners allege that uncertainties in the radionuclide release fraction "could have a significant effect on SAMA outcomes."[141] According to Petitioners, NUREG-1465[142] and NUREG/CR-5747[143] "show that the 95th percentile of the uncertainty distributions for radionuclide release fractions such as that for the cesium class are typically a factor of three to four greater than the means of the distributions."[144] Further, Petitioners assert that another NRC document shows that such increases in radionuclide release fractions would "correspond to

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138 Petition at 10 (*citing* Edwin S. Lyman, Union of Concerned Scientists, *A Critique of the Radiological Consequence Assessment Conducted in Support of the Indian Point Severe Accident Mitigation Alternatives Analysis* (Nov. 2007) (commissioned by Riverkeeper, Inc.) ("Indian Point Study")). The Petitioners do not provide any ADAMS or other internet citation, nor do they attach this document directly. Therefore, as explained in Section IV.B.2.c(i)(2), below, they cannot rely this document as a reference under 10 C.F.R. § 2.309(f)(1)(v). TVA, however, has searched the Indian Point docket and obtained a copy of Dr. Lyman's study. It is Exhibit 2 to Riverkeeper Contention EC-2, and is attached to Riverkeeper, Inc.'s Request for Hearing and Petition to Intervene in the License Renewal Proceeding for the Indian Point Nuclear Power Plant dated November 30, 2007. *Available at* ADAMS Accession No. ML073410093. As explained below, however, the Petitioners should not place the burden of obtaining the essential document supporting their contention on the other parties or the Board.

139 *See* Petition at 11.

140 *See id*.

141 *Id.* at 11-12 (*citing* NUREG-1465 & NUREG/CR-5747).

142 Accident Source Terms for Light-Water Nuclear Power Plants (Feb. 1995).

143 Estimate of Radionuclide Release Characteristics Into Containment Under Severe Accident Conditions (Nov. 1993).

144 Petition at 12.

increases in consequences (and hence benefits) by a similar factor."[145] Again, however, the Petitioners cite to no regulation or NRC guidance document that requires or even advises that uncertainty in radiological release fractions should be evaluated using the 95th percentile of the uncertainty distributions for these values.

As described further below, this proposed contention is inadmissible because it is unsupported by sufficient alleged facts or expert opinion and fails to raise a genuine dispute on a material issue of fact or law, contrary to 10 C.F.R. § 2.309(f)(1)(v) and (vi). The following first provides a brief overview of the regulatory requirements and Staff guidance associated with the SAMA analysis.

b. Overview of SAMA Analysis Requirements and Guidance

As noted above, TVA submitted its WBN Unit 2 2007 FSEIS to the NRC on February 15, 2008. The NRC Staff issued a request for additional information ("RAI") asking for "an analysis of alternatives available for preventing or mitigating adverse environmental effects of severe accidents for WBN Unit 2. The analysis should be consistent in scope and content with severe accident mitigation alternative analyses provided in support of recent license renewal applications . . . ."[146] TVA provided this analysis to the NRC Staff on January 27, 2009.[147] Thus, TVA's SAMA Analysis is evaluated under the standards applicable to SAMA analyses for license renewal applications.

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[145] *Id*. (*citing* Technical Assessment Summary for GSI-189: "Susceptibility of Ice Condenser and Mark III Containments to Early Failure From Hydrogen Combustion During a Severe Accident," *available at* ADAMS Accession No. ML023510187).

[146] *See* Letter from M. Bajestani, TVA, to NRC Document Control Desk, "Watts Bar Nuclear Plant (WBN) - Unit 2 - Final Supplemental Environmental Impact Statement - Request for Additional Information (TAC MD8203) Encl. 1, at E1-2 (July 2, 2008), *available at* ADAMS Accession No. ML081850460 ("FSEIS RAI Response").

[147] *See* Letter from M. Bajestani, TVA, to NRC Document Control Desk, "Watts Bar Nuclear Plant (WBN) Unit 2 – Final Supplemental Environmental Impact Statement – Severe Accident Management Alternatives (TAC MD8203)" at 1 (Jan. 27, 2009), *available at* ADAMS Accession No. ML090360588. The SAMA Analysis was an attachment to this letter.

(i) The Nature and Scope of the SAMA Analysis Requirement

NRC regulations require, at the operating license renewal stage, that "[i]f the staff has not previously considered severe accident mitigation alternatives for the applicant's plant in an [EIS] or in an environmental assessment, a consideration of alternatives to mitigate severe accidents must be provided."[148] The NRC imposed this requirement on licensees despite the agency's generic finding that "probability-weighted" consequences of impacts resulting from severe accidents would be small. Specifically, Table B-1 in Part 51 states: "The probability weighted consequences of atmospheric releases, fallout onto open bodies of water, releases to groundwater, and societal and economic impacts from severe accidents are *small for all plants*."[149]

SAMA analysis makes use of PRA and cost-benefit analysis techniques to ensure identification and assessment of any plant changes—in hardware, procedures, and training—that could significantly reduce the radiological risk from a severe accident by preventing substantial core damage (*i.e.*, a severe accident) or by limiting releases from containment in the event that substantial core damage occurs (*i.e.*, mitigating the impacts of a severe accident).[150] SAMA analysis, then, is "rooted in a cost-benefit assessment."[151] Therefore, "[w]hether a SAMA may be worthwhile to implement is based upon . . . a weighing of the cost to implement the SAMA with the reduction in risks to public health, occupational health, offsite and onsite property."[152]

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148 10 C.F.R. § 51.53(c)(3)(ii)(L).

149 Emphasis added.

150 *See* Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28,467, 28,480-82 (June 5, 1996); *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-17, 56 NRC 1, 5 (2002).

151 *Duke*, CLI-02-17, 56 NRC at 5.

152 *Id.* at 7-8.

Thus, "[i]f the cost of implementing a particular SAMA is greater than its associated benefit [*i.e.*, total averted risk], the SAMA would not be considered cost-beneficial."[153]

(ii) NRC-Approved Industry Guidance on SAMA Analysis

The NRC and the industry have issued guidance to assist applicants in their preparation of SAMA analyses, and to guide the Staff in its review thereof. For example, in 2000, the NRC Staff issued Supplement 1 to Regulatory Guide 4.2 ("RG 4.2 Supp. 1"), providing guidance on the preparation of supplemental environmental reports for license renewals, including the preparation of SAMA analyses. Since the issuance of RG 4.2 Supp. 1, the Nuclear Energy Institute ("NEI") has developed an industry template, NEI 05-01, Revision A, for completing SAMA analyses that "relies upon NUREG/BR-0184 regulatory analysis techniques, is a result of experience gained through past SAMA analyses, and incorporates insights gained from NRC evaluations of SAMA analyses and associated RAIs."[154] The Staff has endorsed NEI 05-01, Revision A.[155] TVA prepared its WBN Unit 2 SAMA analysis in accordance with NEI 05-01, Revision A.[156]

Under RG 4.2 Supp. 1 and NEI 05-01, SAMA analyses generally include four major parts: (1) quantification of the level of risk associated with potential reactor accidents using plant-specific PRA and other risk models; (2) examination of the major risk contributors and

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153 *Id.* at 5.

154 NEI 05-01, Severe Accident Mitigation Alternatives Analysis, Guidance Document, Rev. A, at i (Nov. 2005), *available at* ADAMS Accession No. ML060530203 ("NEI 05-01").

155 *See* Final License Renewal Interim Staff Guidance LR-ISG-2006-03: Staff Guidance for Preparing Severe Accident Mitigation Analyses' (Aug. 2007) ("LR-ISG-2006-03"). On July 31, 2009, the Staff issued a proposed revision to RG 4.2 Supp. 1, Draft Regulatory Guide DG-4015, Preparation of Environmental Reports for Nuclear Power Plant License Renewal Applications ("DG-4015"), *available at* ADAMS Accession No. ML091620409. Consistent with RG 4.2 Supp. 1, DG-4015 reiterates that applicants preparing SAMA analyses may be guided by analyses performed for previous license renewal applications. *See* DG-4015 at 48. Also, consistent with LR-ISG-2006-03, the DG-4015 provides that applicants "should consider . . . the guidance provided in NEI 05-01." *Id.*

156 *See* SAMA Analysis at 3.

identification of possible means (*i.e.*, SAMAs) of reducing that risk; (3) estimation of the benefits and costs associated with specific SAMAs; and (4) comparison of the costs and benefits of the identified SAMAs to determine whether the SAMA is cost-beneficial. NEI 05-01 also recommends the performance of sensitivity analyses, to "[e]valuate how changes in SAMA analysis assumptions would affect the cost-benefit analysis."[157] The specified sensitivity analyses under NEI 05-01 include an evaluation of core damage frequency ("CDF") uncertainty, including the "use of an uncertainty factor derived from the ratio of the 95th percentile to the mean point estimate for internal events CDF . . . to account for CDF uncertainties."[158]

NEI 05-01 does not recommend the evaluation of uncertainties in meteorological conditions or radionuclide release fractions in this manner, as advocated by Petitioners, nor are these parameters included among the recommended sensitivity analyses in NEI 05-01.[159] Instead, with respect to meteorological conditions, NEI 05-01 provides that applicants should "[e]xplain why the data set and data period are representative and typical," and suggests that it would be appropriate for applicants to choose, from a series of annual meteorological data sets, to use the single year with the highest does consequences.[160] TVA's SAMA Analysis uses this conservative approach.[161]

(iii) Controlling NEPA Principles Related to SAMA Analysis

SAMA analysis is a NEPA-derived requirement. Accordingly, consideration of mitigation alternatives is governed by the NEPA "rule of reason"; not each and every adverse

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157 NEI 05-01, at 30.

158 *Id*.

159 *See* NEI 05-01, at 30-32.

160 *See* NEI 05-01, at 15.

161 *See* SAMA Analysis at 10 (explaining TVA's use of 2002 meteorological data because they resulted in the largest risk of the five years of recent meteorological data).

impact must be mitigated, but a "hard look" must be given to the potential mitigation of significant impacts.[162]

Under NEPA's rule of reason, an agency need not consider wholly speculative impacts, even where the consequences could be severe. In this same vein, it is well established that NEPA requires consideration of reasonable—not "worst-case"—scenarios.[163] Indeed, the Council on Environmental Quality ("CEQ") amended 40 C.F.R. § 1502.22 in 1986 (in light of *Methow Valley*) to require consideration of "reasonably foreseeable" impacts in lieu of the "worst case" analysis that the regulation had previously required.[164] That regulation now provides that where there is "incomplete or unavailable information," an EIS must still be "based upon theoretical approaches or research methods generally accepted in the scientific community . . . provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason."[165] The Court in *Methow Valley* further explained that, by requiring an EIS to "focus on reasonably foreseeable impacts," the

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162 *See Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 351-52 (l989).

163 *See id*. at 354-55 (holding that NEPA and CEQ regulations "ground[] the duty [to consider remote but potentially severe impacts] in evaluation of scientific opinion rather than in the framework of a conjectural 'worst case analysis.'"). This also is consistent with Commission policies concerning safety goals and risk assessment. In its Safety Goal Policy Statement, the Commission adopted the use of mean estimates for implementing the quantitative objectives of its safety goal policy. *See* Safety Goals for the Operation of Nuclear Power Plants; Policy Statement; Correction and Republication, 51 Fed. Reg. 30,028 (Aug. 21, 1986). In its policy statement on the use of PRA methods in NRC-regulated activities, it emphasized that "PRA evaluations in support of regulatory decisions should be as realistic as practicable." Use of Probabilistic Risk Assessment Methods in Nuclear Regulatory Activities; Final Policy Statement, 60 Fed. Reg. 42,622, 46,629 (Aug. 16, 1995).

164 *See* National Environmental Policy Act Regulations; Incomplete or Unavailable Information, 51 Fed. Reg. 15,618, 15,621-25 (Apr. 25, 1986). The Commission has complied with NEPA by issuing regulations governing its consideration of the environmental impact of licensing actions in 10 C.F.R. Part 51. The NRC's regulations are based on the CEQ regulations. Section 51.10(a) refers to "the Commission's announced policy to take account of the regulations of the [CEQ] published November 29, 1978 (43 Fed. Reg. 55,978-56,007) voluntarily, subject to certain conditions." In the *Private Fuel Storage* proceeding, the Commission noted that it gives CEQ regulations "substantial deference." *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340, 348 n.22 (2002); *see also Andrus v. Sierra Club*, 442 U.S. 347, 358 (1979) (holding that CEQ regulations are entitled to "substantial deference").

165 40 C.F.R. § 1502.22(b)(4) (emphasis supplied).

amended rule "'will generate information and discussion on those consequences of greatest concern to the public and of greatest relevance to the agency's decision, *rather than distorting the decisionmaking process by overemphasizing highly speculative harms*.'"[166]

In NRC adjudicatory proceedings, the Commission and its licensing boards have adhered to the principles of *Methow Valley*.[167] The Commission also has expressly recognized that SAMAs are mitigation measures which are analyzed in the same fashion as other potential mitigation measures, and that SAMA analyses are governed by the NEPA "rule of reason."[168]

c. Proposed Contention 2 Is Not Admissible and Should be Dismissed

(i) This Contention Lacks Factual or Expert Opinion Support

(1) Dr. Lyman's Declaration Provides No Supporting Expert Opinion

As a threshold matter, the Petitioners should not be permitted to rely upon Dr. Lyman's Declaration as a source of adequate expert opinion to support this proposed contention.[169] In his Declaration, Dr. Lyman simply asserts that he is "responsible for the factual content and expert opinions expressed in Petitioners' contentions regarding the inadequacy of TVA's SAMA analysis," but provides no further substantive information.[170] At least one Board has criticized this approach of wholesale adoption of legal pleadings by an expert witness, because the

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166 490 U.S. at 356.

167 *See*, *e.g.*, *Hydro Res., Inc*, (P.O. Box 777, Crownpoint, , N.M., LBP-04-23, 60 NRC 441, 447 (2004) (stating that the "'hard look' at environmental consequences mandated by NEPA is subject to a 'rule of reason,' meaning that the assessment need not include every environmental effect that could potentially result from the action, but rather may be limited to effects which are shown to have some likelihood of occurring."); *Private Fuel Storage*, CLI-02-25, 56 NRC at 354 (rejecting consideration of worst-case scenarios because their consideration involves "the arduous and unproductive task of analyzing conceivable, but very speculative catastrophes" and diverts the agency's "limited resources" from more productive efforts).

168 *See Duke Energy Corp.*, CLI-03-17, 58 NRC at 431; *Duke Energy Corp.*, CLI-02-17, 56 NRC at 11-12 (applying the "rule of reason" to SAMA analyses).

169 *See* Petition at 9 (*citing* Petition Attach. 3, Declaration of Dr. Edwin S. Lyman in Support of Petitioners' Contentions (July 10, 2009) ("Lyman Declaration")).

170 Lyman Declaration para. 5.

petitioner should distinguish its legal pleadings from the substantive facts and opinions expressed by its expert.[171] Blurring this distinction "undermines [the Board's] ability to differentiate between the legal pleadings and the facts and opinions expressed by the expert."[172] The Commission has not directly ruled on the acceptability of the adoption practice under 10 C.F.R. § 2.309(f)(1), but has rejected it in the context of a motion to reopen the record.[173] For the reasons set forth by the *Vermont Yankee* Board,[174] and based on the Commission's rationale in the *Oyster Creek* decision,[175] this Board should reject or give little weight to the Lyman Declaration as a source of expert opinion support for this proposed contention.

(2) Dr. Lyman's Indian Point Study Was Not Submitted with the Petition, Nor Have Petitioners Established Its Relevance to WBN Unit 2

As noted previously, the critical document underlying the Petitioners' claims in this proposed contention is Dr. Lyman's "critique" of the SAMA analysis submitted in support of the license renewal application for the Indian Point facility.[176] According to the Petitioners, TVA's conclusion regarding the relatively small impact of uncertainties in meteorological data on overall risk is "inconsistent" with Dr. Lyman's Indian Point Study.[177] The Petitioners identify

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171 *See Entergy Nuclear Vt. Yankee LLC* (Vt. Yankee Nuclear Power Station), LBP-04-28, 60 NRC 548, 560 n.16 (2004) (cautioning that a petitioner should distinguish its legal pleadings from the substantive facts and opinions expressed by its expert). *But see U.S. Dept. of Energy* (High Level Waste Repository), LBP-09-06, slip op. at 41 (May 11, 2009).

172 *AmerGen Energy Co., LLC* (License Renewal for Oyster Creek Nuclear Generating Station), CLI-09-07, slip op. at 79 n.318 (Apr. 1, 2009) (*quoting Vermont Yankee*, LBP-04-28, 60 NRC at 560 n.16).

173 *See Oyster Creek*, CLI-09-07, slip op. at 79 n.318 (rejecting an expert's attempt to "adopt[] argument of counsel . . . as his own testimony").

174 *See* LBP-04-28, 60 NRC at 560 n.16.

175 *See* CLI-09-07, slip op. at 79 n.318.

176 *See* Petition at 10-11 (*citing* the Indian Point Study).

177 Petition at 10.

the title, date, and author of the Indian Point Study, but do not cite to a source where this document is available, nor do they cite any specific page or section of the document.[178]

Aside from its substantive irrelevance to this proceeding, TVA objects to the manner in which Petitioners seek to use it here; namely by not attaching it or even providing a direct citation to it. A petitioner is not permitted to provide vague references or incorporate documents by reference without specific citations.[179] This practice deprives the parties and the Board of the opportunity to scrutinize the reference to confirm that it supports the proposed contention. This scrutiny is a prerequisite for contention admissibility under 10 C.F.R. § 2.309(f)(1)(v).[180]

In addition, as clearly indicated by its title, *the Indian Point Study does not directly relate to WBN Unit 2* or the SAMA Analysis submitted by TVA. The only link between the Indian Point Study and WBN Unit 2 is through an implied connection drawn in the text of Petitioners' proposed contention.[181] As explained above, however, the text of this proposed contention consists of bare assertions of counsel, unsupported by any valid or verifiable expert opinion. Moreover, neither Dr. Lyman's Declaration nor his Indian Point Study explain why or how the conclusions in the Indian Point Study apply to TVA's SAMA Analysis.[182]

The Commission recently rejected a number of contentions under similar circumstances.[183] Specifically, in the ongoing *Crow Butte* license renewal proceeding, the Commission reversed a Board decision to admit two contentions; one regarding the effect of the

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178 *See id*.

179 *See*, *e.g.*, *Seabrook*, CLI-89-3, 29 NRC at 241 ("The Commission expects parties to bear their burden and to clearly identify the matters on which they intend to rely with reference to a specific point.").

180 *See*, *e.g., Vt. Yankee*, ALAB-919, 30 NRC at 48.

181 *See* Petition at 10 ("TVA's conclusion is inconsistent with an independent study by Dr. Lyman . . . .").

182 *See also Fansteel, Inc.*, CLI-03-13, 58 NRC at 204 (holding that a petitioner must "provide analysis and supporting evidence as to why particular . . . documents . . . provide a basis for the contention").

183 *See Crow Butte Res., Inc.* (License Renewal for In Situ Leach Facility, Crawford, Nebraska), CLI-09-09 (May 18, 2009).

applicant's facility upon wetlands, and the other regarding the alleged health effects of low levels of arsenic.[184] According to the Commission, the first contention "provided no support for [its] underlying premise" and the other contained "gaps in . . . reasoning."[185] In both contentions, the fatal flaw was the petitioner's failure to connect—through alleged facts or expert opinion rather than through assertions of counsel—generic studies regarding wetlands and arsenic effects to the conditions *at the applicant's facility*.[186] The Petitioners' attempt here to rely upon Dr. Lyman's Indian Point Study is similarly deficient, in that the proposed contention provides no alleged facts or expert opinion to connect the Indian Point Study to WBN Unit 2, contrary to 10 C.F.R. § 2.309(f)(1)(v).[187]

(ii) This Proposed Contention Is Unsupported by Alleged Facts or Expert Opinion Such that It Fails to Raise a Genuine Dispute

(1) As in the Indian Point Proceeding, Petitioners' Allegations Related to Meteorological Uncertainty Should Be Rejected

Proposed Contention 2 is essentially a repetition of one basis of a contention in the *Indian Point* license renewal proceeding that the Board in that proceeding rejected as failing to raise a genuine dispute. This Board should reject this proposed contention for this additional reason.

Namely, Petitioners' proposed contention in this proceeding seeks to rely upon the very same report by Dr. Lyman used to support contention "Riverkeeper EC-2" in *Indian Point*.[188]

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184 *See id*. at 31-32 & 39-43.

185 *Id*. at 32 & 42.

186 *See id*. at 31-32 & 39-43.

187 *See also Crow Butte Res., Inc.*, CLI-09-12, slip op. at 34-35 (reversing the admission of another contention where the only connection between the generic study petitioner's relied upon and the applicant's facility was petitioner's "own beliefs").

188 Riverkeeper, Inc.'s Request for Hearing and Petition to Intervene in the License Renewal Proceeding for the Indian Point Nuclear Power Plant at 56 (Nov. 30, 2007), *available at* ADAMS Accession No. ML073410093. Dr. Lyman's Indian Point Study was Exhibit 2 to Riverkeeper EC-2. *See also See Indian Point*, LBP-08-13, slip op. at 176.

Riverkeeper EC-2 contained a number of other allegedly-supporting bases in addition to Dr. Lyman's study, but the Board rejected that contention *in its entirety*.[189] Specifically, the Board rejected Dr. Lyman's analysis of meteorological uncertainty because the "[p]resentation of an alternative analysis is, without more, insufficient to support a contention alleging that the original analysis failed to meet applicable regulatory requirements."[190] The same rationale applies here. Nowhere in this proposed contention do the Petitioners identify *any* regulatory requirement to account for Level 3 PRA uncertainties in the manner in which they desire or propose.[191] Thus, as in *Indian Point*, the Petitioners and Dr. Lyman fail to show or even allege that TVA's analysis fails to meet a statutory or regulatory requirement, and therefore there are insufficient alleged facts or expert opinion to raise a genuine dispute.[192]

(2) Petitioners Do Not Allege Any Deficiency in TVA's Calculations Relating to the Radionuclide Release Fraction

The Petitioners' speculation that uncertainties in the radionuclide release fractions associated with early containment failures "could have a significant effect on SAMA outcomes" also does not raise a genuine dispute.[193] In support, Petitioners point to Table 7 in TVA's SAMA Analysis, which sets forth the fission product source terms used in the SAMA analysis.[194]

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189 *Indian Point*, LBP-08-13, slip op. at 175-84.

190 *Indian Point*, LBP-08-13, slip op. at 183; *see also Duke Energy Corp.*, CLI-02-26, 56 NRC at 363 n.10 (explaining that to be admissible a contention must be one that, if proven, would entitle the petitioner to relief).

191 *See* Petition at 9-12.

192 Indeed, following the rejection of this contention in *Indian Point*, neither Dr. Lyman nor the Petitioners herein have made any effort to address the deficiencies in their contention that the Board identified in the *Indian Point* proceeding. They simply offer the same (and now rejected) arguments and expert report.

193 Petition at 11.

194 The fission product source terms shown in Table 7 of TVA's SAMA Analysis are derived from data used in the WBN Unit 1 individual plant examination ("IPE") previously reviewed by the NRC.

Then Petitioners vaguely state that NUREG-1465 and NUREG/CR-5747 show that "there is actually a large range of possible release fractions for each containment damage state."[195]

First, Petitioners' statement of Proposed Contention 2 alleges certain deficiencies in TVA's analysis of "uncertainties in Level 3" PRA parameters, but the radionuclide release fraction is considered as part of the Level 2 PRA analysis.[196] Under NEI 05-01, Level 2 PRA models "determine release frequency, severity, and timing" of potential severe accidents.[197] Level 3 models "determine off-site dose and economic impacts of severe accidents based on [Level 1 and Level 2 results], atmospheric transport, mitigating actions, dose accumulation, early and latent health effects, and economic analyses."[198] Thus, the radionuclide release fraction is a variable considered as part of the Level 2 analysis, not Level 3.[199] As a result, this purported basis does not relate to the contention as stated by the Petitioners. Petitioners' allegations related to the radionuclide release fraction are therefore subject to dismissal under 10 C.F.R. § 2.309(f)(1)(i) and (ii), for failure to provide a specific statement of the issue of law or fact to be raised or controverted, and for failure to provide a brief explanation of the basis for the contention.

In addition, the Petitioners do *not* allege that the values shown in Table 7 of TVA's SAMA Analysis are insufficiently conservative or inconsistent with any regulations or regulatory guidance. Instead, they merely express the desire to see fission product source terms expressed

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[195] Petition at 11.

[196] *Id.* at 9.

[197] *See* NEI 05-01, at 10. NEI 05-01 refers to PRA as "PSA" – probabilistic safety assessment.

[198] *See id*. at 13.

[199] *See id.* at 11 & 35 (discussing sample release fractions under the Level 2 analysis); SAMA Analysis at 8-9, 71 (discussing the fission product release fractions associated with each release category under the Level 2 analysis).

as a range of values, rather than the specific values used by TVA.[200] Nor do the Petitioners allege or show that the 95th percentile of the uncertainty distributions for radionuclide release fractions must, or even should, be used in order to comply with regulations. The Petitioners bear the burden of identifying the regulatory requirement that is alleged to be violated.[201] Instead, they only claim that the use of 95th percentile values, rather than mean value, would increase the calculated release fractions and therefore increase the consequences of analyzed accident scenarios.[202] Again, however, Petitioners do not show or even *allege* any deficiency in TVA's estimates of radionuclide release fractions, and therefore there is no genuine dispute on this point.

(3) The Proposed Contention Fails to Raise a Genuine Dispute with TVA's SAMA Analysis

In addition to the above deficiencies, Proposed Contention 2 also fails to raise a genuine dispute with TVA's SAMA Analysis because Petitioners overlook or ignore how TVA's SAMA Analysis addresses meteorological uncertainty and uncertainties in the radionuclide release fraction. Ultimately, the Petitioners seek to impose a "worst-case scenario" requirement that is absent from the NRC regulatory scheme.[203]

Even if one considers this proposed contention to be supported by the "expert" opinion of Dr. Lyman, that opinion is predicated on an imprecise reading of TVA's SAMA analysis and a clear misunderstanding of the underlying methodology. This is not surprising, given Petitioners'

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200 *See* Petition at 11-12.

201 *See Shearon Harris*, CLI-09-08, slip op. at 4 & 9. In *Shearon Harris*, the Board had admitted a contention in part because the applicant and Staff did not "provide information indicating whether such allegedly omitted information indeed is required." *Id*. at 4. The Commission reversed, because "the initial burden of showing whether the contention meets our admissibility standards still lies with the petitioner." *Id*. at 9; *see also Indian Point*, LBP-08-13, slip op. at 183 (requiring a "minimal demonstration" that a SAMA "analysis fails to meet a statutory or regulatory requirement").

202 *See* Petition at 12.

203 *See generally* Section IV.B.2.b, above.

reliance on a report prepared for another facility and in another proceeding. Moreover, Petitioners' arguments constitute an improper attack on the basic structure of the NRC regulatory process, in that the methodology used by TVA is well established and has been previously approved by the NRC, as explained below. Accordingly, this basis does not establish a *genuine* dispute with the Applicant on a *material* issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

The linchpin of Petitioners' claim is that TVA's SAMA cost-benefit evaluation should be based on the 95th percentile of the meteorological distribution and radionuclide release fraction *in addition to* the 95th percentile of the core damage frequency ("CDF") *and* large early release frequency ("LERF") distributions.[204] In other words, the Petitioners are demanding that TVA perform a SAMA analysis that makes worst-case assumptions for essentially every variable, in order to achieve the Petitioners' desired result.

As explained above in Section IV.B.2.b, however, there is simply no requirement under NEPA or 10 C.F.R. § 51.53(b) to conduct SAMA analyses in this manner. TVA is required to account for uncertainties in its SAMA Analysis based on NEPA's rule of reason.[205] TVA's SAMA Analysis does so, with appropriate conservatism, consistent with NRC-endorsed guidance.[206] TVA's unchallenged compliance with relevant guidance documents such as NEI 05-01, as endorsed in LR-ISG-2006-03, "constitutes reasonable assurance" of compliance with

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[204] *See* Petition at 10.

[205] *See Methow Valley*, 490 U.S. at 354-55 (finding an agency's duty to consider remote but severe impacts to be grounded in "an evaluation of scientific opinion rather than in the framework of a conjectural 'worst case analysis'"); *Private Fuel Storage*, CLI-02-25, 56 NRC at 352 ("NEPA does not call for a 'worst-case' inquiry, which, it is now recognized, simply creates a distorted picture of a project's impacts and wastes agency resources").

[206] *See* NEI 05-01, at 10 & 30, discussed in Section IV.B.2.b(ii), above; *see also* SAMA Analysis at 10 (discussing TVA's use of conservative meteorological data).

applicable regulatory requirements.[207] The Petitioners have not carried their burden of showing that TVA is required to perform an alternative, outcome-driven exercise based only on the *most* conservative assumptions for *every* variable.[208]

Finally, the Petitioners fail to take issue with how TVA specifically accounted for meteorological uncertainty. TVA's SAMA Analysis explains that the sensitivity of Level 3 PRA results to "[m]eteorological data and radionuclide release height have been studied extensively (e.g., the Vogtle and Wolf Creek SAMA Uncertainty analyses) and have been shown to result in relatively small changes in overall risk."[209] Petitioners provide no contrary analysis, other than bare, unsupported assertions.[210]

For these reasons, Proposed Contention 2 fails to provide a specific statement of the issue of fact or law to be raised or controverted, contrary to 10 C.F.R. § 2.309(f)(1)(i), fails to provide an adequate basis, contrary to 10 C.F.R. § 2.309(f)(1)(ii), is unsupported by alleged facts or expert opinion, contrary to 10 C.F.R. § 2.309(f)(1)(v), and fails to raise a genuine dispute, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Accordingly, it must be dismissed in its entirety.

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[207] *See AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-08-23, slip op. at 6 (Oct. 6, 2008); *see also Petition for Emergency & Remedial Action*, CLI-78-6, 7 NRC 400, 407 (1978) ("If there is conformance with regulatory guides, there is likely to be compliance with" the regulations).

[208] *Cf. Private Fuel Storage*, CLI-02-25, 56 NRC at 352 ("one can always conjure up a worse 'worst case' by adding an additional variable to a hypothetical scenario").

[209] SAMA Analysis at 32 & 141-42 (*citing* Vogtle Units 1 and 2 License Renewal Environmental Report (June 30, 2007), *available at* ADAMS Accession No. ML071840357; *and* Wolf Creek License Renewal Environmental Report (Sept. 27, 2006), *available at* ADAMS Accession No. ML062770305). The NRC Staff explicitly recommends that, in new SAMA analyses, applicants should be "guided by analyses performed for previous applications for renewal of operating licenses." RG 4.2 Supp. 1, at 4.2-S-49.

[210] *See* Petition at 10. Petitioners claim that TVA's conclusions are contrary to Dr. Lyman's Indian Point Study. A review of the Indian Point Study, however, reveals no discussion of the Vogtle or Wolf Creek analyses, much less any explanation of why Dr. Lyman disagrees with the conclusions therein.

3. Proposed Contention 3 (Inadequate Consideration of Severe Accident Mitigation Alternatives With Respect to AC Backup for Diesel Generators) Is Inadmissible Because It Is Based on Mischaracterizations of NRC Documents and Asks the Board to Assume that TVA Will Improperly Implement Its Commitment.

a. Overview of Contention and Supporting Bases

The Petitioners next contend that TVA's "SAMA Analysis is inadequate to comply with NEPA and 10 C.F.R. § 51.53(b) with respect to consideration of severe accident mitigation alternatives ('SAMAs') because it does not provide sufficient information to permit a reasonable assessment of the "reliability" of its AC power backup option for resolution of GSI-189, 'Susceptibility of Ice Condenser and Mark III Containments to Early Failure From Hydrogen Combustion During A Severe Accident.'"[211]

By way of background, at its Sequoyah and WBN Unit 1 plants, TVA implemented voluntary measures to address GSI-189 and ensure that under station blackout ("SBO") conditions there is a reliable source of backup power to the hydrogen control system, which is intended to reduce the potential for hydrogen detonation during a severe accident. TVA did so by relying on additional trailer-mounted diesel generators at Sequoyah and WBN Unit 1, and TVA proposes a similar commitment at WBN Unit 2.[212]

The Petitioners do not challenge the adequacy of this commitment itself. Instead, they claim that "both Sequoyah and WBN Unit 1 have had reliability issues associated with the voluntary implementation of a backup supply of AC power, bringing into question whether the effectiveness of the backup system would be as high as 90 percent."[213] According to the Petitioners, these "reliability issues" are documented in two NRC inspection reports, one at

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[211] Petition at 12.

[212] *See* SAMA Analysis at 97 (explaining that an "alternate power supply to the hydrogen igniters was implemented," so the intent of the relevant SAMA was already met).

[213] Petition at 14-15.

WBN Unit 1 and one at Sequoyah.[214] Like Proposed Contention 2, Petitioners' expert in this contention, Dr. Lyman, simply asserts that he is "responsible for the factual content and expert opinions" in this contention.[215]

As relief, Petitioners claim that "TVA should be required to conduct a Phase 2 analysis of a range of measures for ensuring the reliability of its alternate power supply" to the hydrogen igniter system.[216] This proposed contention, however, is unsupported by alleged facts or expert opinion and fails to raise a genuine dispute on a material issue of law or fact. Therefore, it must be dismissed.

b. Proposed Contention 3 Is Not Admissible and Should be Dismissed

(i) This Proposed Contention Lacks Adequate Expert Opinion Support

As explained with respect to Proposed Contention 2 in Section IV.B.2.c(i)(1), above, Dr. Lyman's assertion that he is "responsible for the factual content and expert opinions expressed in Petitioners' contentions regarding the inadequacy of TVA's SAMA analysis,"[217] is insufficient because it "undermines [the Board's] ability to differentiate between the legal pleadings and the facts and opinions expressed by the expert."[218] Therefore, the Board should place little or no reliance on the expert opinion offered by Dr. Lyman for Proposed Contention 3.

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[214] *See id*. at 15 (*citing* Watts Bar Nuclear Plant – NRC Integrated Inspection Report 05000390/2008003 and Annual Assessment Meeting Summary (Aug. 7, 2008), *available at* ADAMS Accession No. ML082210342 ("WBN Unit 1 Inspection Report"); *and* Sequoyah Nuclear Plant – NRC Integrated Inspection Report 05000327/2009002 and Annual Assessment Meeting Summary (May 1, 2009), *available at* ADAMS Accession No. ML091210186 ("Sequoyah Inspection Report").

[215] Lyman Declaration para. 5.

[216] Petition at 13. Briefly, a "Phase 2 assessment" is a comparison of the benefit of severe accident risk reduction for each SAMA candidate (other than those screened out for threshold reasons at Phase 1) to an implementation cost estimate to determine the net cost-benefit. *See* NEI 05-01, at 2.

[217] Lyman Declaration para. 5.

[218] *Oyster Creek*, CLI-09-07, slip op. at 79 n.318 (*quoting Vt. Yankee*, LBP-04-28, 60 NRC at 560 n.16).

(ii) This Proposed Contention Is Unsupported by Alleged Facts or Expert Opinion Such that It Fails to Raise a Genuine Dispute on a Material Issue of Law or Fact

As noted above, the sole bases relied upon by Petitioners to support this proposed contention are two NRC inspection reports. The reports purportedly document "reliability issues" associated with the implementation of commitments at the WBN Unit 1 and Sequoyah facilities that are similar to the commitment TVA relies upon to address GSI-189 at WBN Unit 2. This argument fails for two reasons.

First, Petitioners grossly overstate and mischaracterize the issues identified at WBN Unit 1 and Sequoyah in the inspection reports. As explained below, with respect to hydrogen igniter backup power, the NRC Staff's inspection at WBN Unit 1 revealed "[n]o findings of significance,"[219] and the finding at Sequoyah was of "very low safety significance."[220] Neither finding involved any violation of a regulatory requirement, nor did the NRC conclude, in either case, that the backup power supply would not be available when required. TVA took effective and appropriate corrective action in both cases.[221]

As to the WBN 1 Inspection Report, the Petitioners quote selectively from the report and suggest, without further support, that: (1) TVA's "unofficial documentation" showing that backup power to the hydrogen igniters can be achieved in a timely fashion was somehow deficient; (2) TVA was not addressing the issue of igniter actuation under severe core damage conditions; (3) TVA was required to conduct "drills or dry runs" for the hydrogen igniter backup power system; and (4) TVA was required to test the companion transformer for the diesel

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[219] WBN Unit 1 Inspection Report encl. at 23.

[220] Sequoyah Inspection Report encl. at 25.

[221] *See* WBN Unit 1 Inspection Report encl. at 23-25; Sequoyah Inspection Report encl. at 24.

generator.[222] A full review of the WBN Unit 1 Inspection Report, however, shows just the opposite. Specifically: (1) TVA's records *did show* that the required backup power timeline could be met;[223] (2) TVA *was* revising its procedures for severe core damage situations;[224] (3) there "is no requirement detailing that drills or dry runs" be performed;[225] and (4) even though there were no applicable maintenance requirements, TVA initiated an evaluation of the need to improve preventive maintenance for the companion transformer.[226] The Petitioners also omit the crucial relevant overall conclusion set forth in the inspection report: "No findings of significance were identified."[227]

The Petitioners similarly mischaracterize the ultimate conclusion reached by the Staff in the Sequoyah Inspection Report. According to the Petitioners, because of TVA's alleged "failure to adequately revise procedures . . . the igniters would not have worked if an SBO had occurred."[228] Again, a full review of the Inspection Report reveals a different, more complete story. As noted in the Sequoyah Inspection Report, the NRC conducted a human reliability analysis to determine "the likelihood of diagnosing and energizing the igniters without the procedure directing such actions. The evaluation determined that the diagnosis was obvious and recovery was likely due to the design of the circuit and the proximity of the control room . . . ." [229] This evaluation contributed to the Staff's ultimate conclusion that its finding was of very low

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[222] *See* Petition at 15.

[223] *See* WBN Unit 1 Inspection Report encl. at 24.

[224] *See id*.

[225] *Id*. at 25.

[226] *See id*.

[227] *Id*. at 23.

[228] Petition at 15. The Petitioners provide no citation for this statement.

[229] Sequoyah Inspection Report encl. at 25.

safety significance and that there was no violation of any regulatory requirement.[230] To resolve the issue, TVA revised its procedure to provide guidance on supplying power to one train of hydrogen igniters per unit.[231]

Thus, neither the WBN Unit 1 nor Sequoyah Inspection Report raises any valid questions regarding the adequacy of TVA's commitment to install trailer-mounted diesel generators as a backup power source for the hydrogen igniters at WBN Unit 2 in order to resolve the issues in GSI-189. Indeed, the WBN Unit 1 inspection resulted in enhancements—beyond regulatory requirements—to TVA's commitments that will improve the implementation of these commitments at WBN Unit 2.

Second, and perhaps more importantly, the Petitioners cannot simply point to alleged procedural errors in the implementation of commitments at other facilities or units and expect this Board to assume or speculate that TVA would fail to properly implement the same commitment at WBN Unit 2 in the future.[232]

For these reasons, this proposed contention is unsupported by alleged facts or expert opinion, contrary to 10 C.F.R. § 2.309(f)(1)(v) and fails to raise a genuine dispute, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Accordingly, it must be dismissed.

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230 *See id*.

231 *See id*. at 23.

232 *See*, *e.g.*, *Curators of the Univ. of Mo*., CLI-95-8, 41 NRC 386, 400 (1995) (rejecting intervenor's request "to base our findings on the assumption that the University will violate an explicit and unambiguous condition of the license").

4. Proposed Contention 4 (Inadequate Discussion of Need for Power and Energy Alternatives) Is Inadmissible Because It Raises Issues Outside the Scope of This Proceeding, Is Immaterial, Is Unsupported by Alleged Facts or Expert Opinion, and Fails to Raise A Genuine Dispute.

a. Overview of Contention and Supporting Bases

As framed by Petitioners, Proposed Contention 4 asserts that:

> The discussion of the need for power and alternatives in Sections 1.6, 2.0 and 2.6 of the FSEIS for WBN Unit 2 is inadequate to satisfy NEPA because TVA fails to demonstrate that the power which will be generated by the proposed plant is actually needed. TVA also fails to justify its rejection of less financially and environmentally costly alternatives for generating additional power or for reducing demand through energy efficiency measures.[233]

In this proposed contention, Petitioners assert two claims, offering as support the Declaration of Dr. Arjun Makhijani and his attached report.[234] First, they claim the need for power analysis in the 2007 FSEIS is inadequate; concluding that TVA allegedly has not demonstrated that the power generated by WBN Unit 2 is necessary. In support of this first claim, Petitioners contend that "TVA's energy demand projections are based on outdated studies,"[235] and that TVA's failure to include an analysis of the "effects of the nationwide economic crisis or its effects on the TVA region" in the 2007 FSEIS renders the need for power analysis deficient.[236]

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[233] Petition at 16.

[234] *Id.* at 17; *see id*. Attach. 4, Declaration of Dr. Arjun Makhijani in Support of Petitioners' Contentions (July 11, 2009) ("Makhijani Declaration"); Attach. 5,Watts Bar Unit 2: Analysis of Need and Alternatives (July 11, 2009) ("Makhijani Report")).

[235] Petition at 17.

[236] *Id.* at 19.

Second, Petitioners claim that TVA allegedly has failed to justify its choice of a preferred alternative because its analysis of energy alternatives in the 2007 FSEIS is insufficient.[237] In this regard, Petitioners assert that TVA's choice of WBN Unit 2 as its preferred alternative is unjustified because reliance on TVA's Integrated Resource Plan and Environmental Impact Statement ("1995 IRP EIS")[238] is arbitrary and inconsistent,[239] there is no supporting analysis showing that completion of WBN Unit 2 would lower electricity costs and emissions,[240] and TVA did not provide a detailed analysis of any alternatives to completion of WBN Unit 2.[241] Petitioners conclude that "an adequate and reasonable assessment of the need for power and alternative energy alternatives," cannot be performed until TVA completes the process for revising the 1995 IRP EIS.[242]

As discussed further below, this proposed contention is inadmissible because it raises issues that are outside the scope of this proceeding, immaterial, unsupported by alleged facts or expert opinion, and namely failing to raise a genuine dispute on a material issue of law or fact—all contrary to 10 C.F.R. § 2.309(f)(1)(iii), (iv), (v), and (vi). As a result, it must be rejected in its entirety.

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237 *See id.* at 16-21.

238 *Available at* http://www.tva.gov/environment/reports/energyvision2020/index.htm.

239 Petition at 18-19.

240 *Id*.

241 *Id.* at 20.

242 *Id.* at 21.

b. Applicable Legal Framework and Controlling Principles Under NEPA, 10 C.F.R. Part 51, and Relevant Case Law

Fundamentally, Petitioners seek to challenge the extent to which TVA's 2007 FSEIS need for power analysis satisfies NEPA.[243] Generally, an ER[244] must discuss, among other things: (1) the impact of the proposed action on the environment, with impacts "discussed in proportion to their significance;"[245] and (2) alternatives to the proposed action, with that discussion being "sufficiently complete to aid the Commission in developing and exploring, pursuant to section 102(2)(E) of NEPA, 'appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.'"[246] The analysis in the ER also must consider and balance the environmental effects of the proposed action, the environmental impacts of alternatives to the proposed action, and alternatives available for reducing or avoiding adverse environmental effects.[247] In an ER for an operating license, the applicant should discuss the "same matters described in §§ 51.45, 51.51, and 51.52, but only to the extent that they differ from those discussed or reflect new information in addition to that discussed in the final environmental impact statement prepared by the Commission in connection with the construction permit."[248]

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243 *Id.* at 16.

244 TVA's 2007 FSEIS is treated as its ER and is "judged for its adequacy in accordance with the appropriate Commission regulations and regulatory guidance," pursuant to a June 15, 1973 Agreement between the NRC's predecessor, the Atomic Energy Commission ("AEC") and TVA. SECY-07-0096, Possible Reactivation of Construction and Licensing Activities for the Watts Bar Nuclear Plant Unit 2 at 6 (June 7, 2007), *available at* ADAMS Accession No. ML071220492.

245 10 C.F.R. § 51.45(b)(1).

246 *Id.* § 51.45(b)(3).

247 *Id.* § 51.45(c).

248 *Id.* § 51.53(b).

(i) Cost-Benefit Balancing Under NEPA

NEPA is generally regarded as requiring a weighing of the *environmental costs* against the *economic, technical, or other public benefits* of a proposal.[249] As the Commission explained in *Clinch River*, "[t]he courts have found an additional requirement for a cost-benefit analysis in which the need for the proposed action, the satisfaction of which is the benefit side of the scale, is weighed against its environmental costs."[250] NRC regulations direct the Staff to consider and weigh the environmental, technical, and other costs and benefits of a proposed action and alternatives, and, "to the fullest extent practicable, quantify the various factors considered."[251] If important factors cannot be quantified, then they may be discussed qualitatively.[252]

With respect to cost-benefit balancing, the Commission has emphasized that NEPA's "theme . . . is sounded by the adjective 'environmental': NEPA does not require the agency to assess every impact or effect of its proposed action, but only the impact or effect on the environment."[253] In the case of economic benefits, "a key consideration . . . [is] whether the economic assumptions of the FEIS 'were so distorted as to impair fair consideration of the' project's adverse environmental effects.'"[254]

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249 *See*, *e.g.*, *Idaho v. ICC*, 35 F.3d 585, 595 (D.C. Cir. 1994); *Calvert Cliffs' Coordinating Comm., Inc. v. AEC*, 449 F.2d 1109, 1113 (D.C. Cir. 1971).

250 *United States Energy Research and Dev. Admin.* (Clinch River Breeder Reactor Plant), CLI-76-13, 4 NRC 67, 76 (1976).

251 10 C.F.R. § 51.71(d).

252 *Id.*

253 *La. Energy Servs., L.P.* (Claiborne Enrichment Ctr.), CLI-98-3, 47 NRC 77, 88 (*quoting Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 772 (1983)).

254 *Id.* at 89.

(ii) Need for Power Analysis Under NEPA

As the Commission has explained, "the NRC ordinarily examines the need a facility will meet and the benefits it will create."[255] In a 2003 denial of a rulemaking petition, the Commission discussed the need-for-power inquiry at some length, explaining that the NRC historically has "equated the need for power with the benefits of the proposed action."[256] Specifically, "need for power" is "a shorthand expression for the 'benefit' side of the cost-benefit balance, which NEPA mandates for a proceeding considering the licensing of a nuclear plant."[257] There also may be other "reasonably foreseeable" benefits associated with a proposed project.[258] For example, the Commission has specifically acknowledged "that the construction and operation of a nuclear power plant could have multiple benefits such as reducing greenhouse gases and other air pollutants and increasing energy efficiency by retiring older, less efficient sources of power."[259]

The Commission also has indicated that, for purposes of NEPA, the NRC generally need not undertake a rigorous economic analysis of the type performed routinely by cognizant state regulators.[260] Indeed, the Commission has made clear that:

> [W]hile a discussion of need for power is required, the Commission is *not* looking for burdensome attempts by the applicant to precisely identify future market conditions and energy demand, or to develop detailed analyses of system generating

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[255] *Id.* at 89 (*citing La. Energy Servs., L.P.* (Claiborne Enrichment Ctr.), LBP-96-25, 44 NRC 331, 346-47, 346 n.5 (1996)).

[256] Nuclear Energy Institute; Denial of Petition for Rulemaking, 68 Fed. Reg. 55,905, 55,909 (Sept. 29, 2003) ("2003 Rulemaking Petition Denial").

[257] *Id.* (*quoting Pub. Serv. Co. of Okla.* (Black Fox Station, Units 1 & 2), ALAB-573, 10 NRC 775, 804 (1979)); *see also Rochester Gas and Elec. Corp.* (Sterling Power Project, Nuclear Unit 1), ALAB-502, 8 NRC 383, 388 n.11 (1978); *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), ALAB-422, 6 NRC 33, 90 (1977); *Kansas Gas and Elec. Co.* (Wolf Creek Generating Station, Unit 1), ALAB-462, 7 NRC 320, 327) (1978).

[258] 2003 Rulemaking Petition Denial, 68 Fed. Reg. at 55,909.

[259] *Id.*

[260] *Id.*

> assets, costs of production, capital replacement ratios, and the like in order to establish with certainty that the construction and operation of a nuclear power plant is the most economical alternative for generation of power.[261]

Finally, the Commission has stated unequivocally that it adheres to the general premise that the NRC may "'accord substantial weight to the preferences of the applicant and/or sponsor in the siting and design of the project.'"[262] In this same vein, the NRC "will ordinarily give substantial weight to a properly-supported statement of purpose and need by an applicant and/or sponsor of a project in determining the scope of alternatives to be considered by the NRC."[263]

(iii) Analysis of Alternatives to the Proposed Action Under NEPA

NEPA requires a federal agency to consider alternatives to a proposed action in addition to its environmental impacts. NEPA requires only consideration of alternatives that are "feasible" or "reasonable."[264] The NRC's Part 51 regulations codify a standard that federal courts have applied consistently in reviewing agency environmental impact statements.[265] Specifically, "an agency need follow only a 'rule of reason' in preparing an EIS," and "this rule of reason governs 'both *which* alternatives the agency must discuss, and the *extent* to which it must discuss them.'"[266] An agency, in other words, is required to examine only those alternatives that are necessary to permit a "reasoned choice."[267]

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261 *Id.* at 55,910 (*citing Claiborne*, 47 NRC at 88 & 94).

262 *Id.* (*quoting Hydro Res., Inc.* (P.O. Box 15910, Rio Rancho, N.M. 87174), CLI-01-4, 53 NRC 31, 55 (2001) (*citing Citizens Against Burlington v. Busey*, 938 F.2d 190, 197, *cert. denied*, 502 U.S. 994 (1991))).

263 *Id.* at 55,909; *see also Envt'l Law & Policy Ctr v. NRC*, 470 F.3d 676, 684 (7th Cir. 2006) (upholding the Commission's adoption of the applicant's purpose of baseload energy generation and finding that it was reasonable "to conclude that NEPA did not require consideration of energy efficiency alternatives when [the applicant] was in no position to implement such measures").

264 *City of Angoon v. Hodel*, 803 F.2d 1016, 1021 (9th Cir. 1986), *cert. denied*, 484 U.S. 870 (1987).

265 *See*, *e.g.*, 10 C.F.R. § 51.71(f) (requiring consideration of "reasonable alternatives").

266 *Citizens Against Burlington*, 938 F.2d at 195 (citations omitted; emphasis in original).

267 *Natural Res. Def. Council, Inc. v. Morton*, 458 F.2d 827, 836 (D.C. Cir. 1972).

Given that the terms "reasonable" and "alternatives" are not self-defining,[268] the courts have concluded that "[p]roject alternatives derive from an Environmental Impact Statement's 'Purpose and Need' section, which briefly describes 'the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action.'"[269] The term "alternatives" thus means "[t]he alternative ways of accomplishing the objectives of the proposed action and the results of not accomplishing the proposed action."[270] Therefore, "[w]hen the purpose is to accomplish one thing, it makes no sense to consider alternative ways by which another thing might be achieved."[271]

Importantly, the Commission has followed the approach established by the D.C. Circuit in *Citizens Against Burlington*, holding that "reasonable alternatives" are those that "will bring about the ends" of the proposed action, and that the agency must take into account the "economic goals of the project's sponsor."[272] Accordingly, in its 2003 Rulemaking Petition Denial, the Commission noted that, while "[a] Federal agency, acting as a sponsoring agency, would not be permitted to artificially narrow the objective of its action . . . [t]here may well be circumstances where an entity seeking a CP or COL may be able to . . . justify excluding from the EIS consideration of non-nuclear alternative energy sources."[273]

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268 *Citizens Against Burlington*, 938 F.2d at 194-195.

269 *City of Carmel-by-the-Sea v. U.S. DOT*, 123 F.3d 1142, 1155 (9th Cir. 1997) (*citing* 40 C.F.R. § 1502.13).

270 *Citizens Against Burlington*, 938 F.2d at 195 n.4.

271 *Id.* at 195 (*citing City of Angoon*, 803 F.2d at 1021).

272 *See Hydro Res.,* CLI-01-4, 53 NRC at 55-56 (*citing Citizens Against Burlington*, 938 F.2d at 195, 196; *City of Grapevine v. U.S. DOT*, 17 F.3d 1502, 1506 (D.C. Cir.) (holding that there was no basis for finding that an agency may not consider a sponsor's goals, where federal funds are involved in the project), *cert. denied,* 513 U.S. 1043 (1994)).

273 2003 Rulemaking Petition Denial, 68 Fed. Reg. at 55,910-11.

c. Overview of TVA's Need for Power and Alternatives Analysis

In the 2007 FSEIS, TVA states that the purpose of the proposed action—completing and operating WBN Unit 2—is "to meet the need for additional baseload capacity on the TVA system and maximize the use of existing assets."[274] Baseload capacity is the primary type of capacity used by TVA to meet energy needs.[275] In the 2007 FSEIS, TVA updates its need for power analysis contained in the TVA 1995b, using the methodology outlined in the 1995 IRP EIS, and acknowledges that its decision to build new generating capacity must be made well in advance of the actual need "because planning, permitting, and construction of new generating capacity typically takes many years."[276]

The 1995 IRP EIS is an extensive and detailed three-volume EIS, containing several hundred pages of energy demand and alternatives analysis.[277] Its development entailed more than 24 months of research by TVA Staff and leading national experts in power planning and integrated resource planning.[278] In the 1995 IRP EIS, TVA considered numerous supply-side and client service, or demand-side, options for meeting forecasted demand.[279] TVA also considered the performance, cost, and environmental emissions for each supply-side option evaluated in the 1995 IRP EIS.[280]

Specifically, for the 1995 IRP EIS, TVA developed more than 2,000 different strategies consisting of combinations of energy resource options, including but not limited to nuclear

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274 2007 FSEIS at S-1.

275 *Id.* at 15.

276 *Id.* at 11.

277 *See generally* 1995 IRP EIS; *see also id.* at 5 (Executive Summary).

278 *Id.* at 5 (Executive Summary).

279 *See, e.g., id.* at 2.4.

280 *Id.* at 7.10-7.11.

power plants, wind turbines, coal, cascaded humidified advanced turbine ("CHAT"), integrated gasification combined cycle plant, and integrated gasification with CHAT.[281] One of these strategies, Strategy K, specifically considered the deferral and building of WBN Unit 2.[282] TVA noted that Strategy K, which incorporates completion of WBN Unit 2, is the lowest cost strategy with assumed "good" nuclear performance.[283] But with assumed moderate or poor performance, the lowest cost strategy did not include completion of WBN Unit 2.[284] Therefore, although the 1995 IRP EIS explicitly noted that it was keeping open alternatives for WBN Unit 2, TVA did not include WBN Unit 2 in its preferred portfolio of options at that time based on conservative assumptions about expected performance of its nuclear units.[285]

The 2007 FSEIS need for power analysis identifies a large number of generating and demand-side management resources with the potential to meet forecasted demand.[286] TVA employed a methodology that explicitly considers uncertainty through the use of a range of inputs and investigation of alternative load-growth scenarios.[287] Specifically, TVA used three alternative load-growth scenarios—low, medium and high.[288] The low-load forecast determines demand and energy at a rate based on low economic growth and includes *no* and *negative* growth conditions.[289] In its analysis of load forecast, TVA also considered historical sales data and data

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281 *Id.* at 7.10-7.11, 9.5 & 9.22.

282 *Id.* at 9.30.

283 *Id.* at 9.31.

284 *Id.*

285 *See id.* at 9.14; *see also* 2007 FSEIS at 19 (noting that "[b]ecause of uncertainties about performance and cost . . . completion of WBN Unit 2 was not included in the portfolio of resource options selected by TVA [in the 1995 IRP EIS] for implementation.").

286 *See* 2007 FSEIS at 11 & 13-14.

287 *See id.* at 11.

288 *Id.* at 12.

289 *Id.* at 12 & Fig. 1-3, at 13.

showing that its "net system requirements grew at an average rate of 2.4 percent from 1990 to 2006."[290] In Chapter 2 of the 2007 FSEIS, TVA tiers off the alternatives analyses of the 1972 FES, 1995 IRP EIS and identifies no new alternatives beyond the substantial number of alternatives already considered in those documents.[291]

The 2007 FSEIS concludes that the addition of nuclear capacity not only helps meet the expected increased power demand, but also "improves the diversity of resources on the TVA system, thereby reducing the risks inherent with any particular kind of resource."[292] TVA chose WBN Unit 2 as its preferred alternative because "[i]t permits TVA to make use of an existing asset . . . potentially helps reduce the cost of TVA power . . .[and] also provides TVA flexibility to reduce emissions from its fossil plants by reducing generation from those plants, depending on future events and the demand for energy."[293] Even under the low-load forecast, TVA found that operating WBN Unit 2 in 2013 is beneficial because it "provides additional fuel diversity, operating flexibility, and a lower delivered cost of power," and would provide TVA the flexibility of relying less on its coal-fired generation.[294] It also determined that completion of WBN Unit 2 would only meet part of the projected energy need (baseload, intermediate, or peaking) and, to help address the shortfall, TVA would place greater emphasis on increasing energy efficiency, energy conservation, and use of renewable energy resources.[295]

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290 *Id.* at 12.

291 *Id.* at 19.

292 2007 FSEIS at 11.

293 *Id.* at 32.

294 *Id.* at 15.

295 *Id.*

d. Proposed Contention 4 Should Be Dismissed Because None of Petitioners' Proffered Bases Are Admissible

(i) Petitioners' Assertion that TVA's Need for Power Analysis is Inadequate Because TVA's Energy Demand Projections Are Based on Outdated Studies Fails to Establish a Genuine Dispute

Petitioners argue that "TVA's energy demand projections are based on outdated studies, including TVA's 1972 FES and [1995 IRP EIS]."[296] Petitioners further assert that the lack of impact from the almost "two decade" delay for the completion of WBN Unit 1 and the suspension of WBN Unit 2 demonstrates that the energy demand predictions in TVA's 1972 FES were "wildly optimistic."[297] Petitioners also contend that the fact that TVA recently instituted a process for revising the 1995 IRP EIS shows that the 1995 IRP EIS is outdated.[298]

Petitioners fundamentally mischaracterize and misinterpret TVA's need for power analysis and, thus, fail to demonstrate the existence of a genuine material dispute, contrary to 10 C.F.R. § 2.309(f)(1)(vi). The Commission has stated repeatedly that a petitioner must "read the pertinent portions of the license application . . . state the applicant's position and the petitioner's opposing view," and explain why it disagrees with the applicant.[299] Petitioners have failed to do that here.[300]

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[296] Petition at 17.

[297] *Id.* at 17. Petitioners rely on Dr. Makhijani's report and in particular, Figure 8 attached to his report to support this claim. As noted, Figure 8 is a reproduction of Figure T5-4 from TVA's 1995 IRP EIS. *See* Petition Attach. 5, at 17; 1995 IRP EIS at T5.3. Although Figure T5-4 demonstrates that the load forecasting methods TVA used in the 1970s were optimistic, TVA presented that information to give background for why it *changed* its load forecasting methods. *See* 1995 IRP EIS at T5.2. Since 1985, TVA's load forecasting has been accurate within 5% of actual loads, falling "well within the industry standard of plus or minus 8 percent accuracy." *See id.*

[298] Petition at 18.

[299] Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *Millstone*, CLI-01-24, 54 NRC at 358.

[300] *See* Petition at 17.

TVA's need for power analysis in the 2007 FSEIS does not simply reiterate its need for power projections in the TVA 1972 FES or the 1995 IRP EIS. Rather, TVA's current need for power analysis refers to and *updates* the detailed analysis contained in its prior environmental documents.[301] As described in the 2007 FSEIS, Section 1.6, TVA "updates the need for power analysis in Section 1 of [TVA 1995b] and shows the circumstances when demand exceeds supply and additional baseload generation is needed."[302] Furthermore, although TVA refers to its 1995 IRP EIS for an explanation of the *method* used to forecast demand,[303] TVA presents its updated analysis of the need for power in the next six pages of the 2007 FSEIS.[304] For example, TVA updates its total commercial customer count and the population of its service area in 2006,[305] provides information about relocations of business entities into the TVA service area after 1995,[306] and updates the growth of its net system requirements by providing the average rate of growth from 1990 through 2006.[307] Figure 1-3 reflects TVA's actual net system requirements through 2006 and updates the forecast for years beyond 2006, and Figure 1-4 reflects TVA's power supply capacity by fuel type through 2006.[308] Petitioners' misinterpretation or failure to read this information in TVA's 2007 FSEIS is not an adequate basis for this contention.[309]

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[301] 2007 FSEIS at 1 ("This document supplements the original 1972 final environmental statement (FES) . . . for the plant and updates pertinent information discussed and evaluated in the related documents below. In doing so, TVA updates the need for power analysis . . . as appropriate."); *see also id.* at 11-12.

[302] *Id.* at 11.

[303] *Id.*

[304] *Id.* at 12-17.

[305] *Id.* at 12.

[306] *Id.*

[307] *Id.*

[308] *Id.* at 13.

[309] S*ee Ga. Tech.*, LBP-95-06, 41 NRC at 300 (holding that a petitioner's imprecise reading of a document cannot be the basis for a litigable contention).

Additionally, Petitioners' assertion that the 1995 IRP EIS is outdated because TVA recently instituted a process for revising the 1995 IRP EIS[310] does not provide support for their claim that TVA's need for power analysis is somehow inadequate.[311] In *Vogtle*, the petitioners argued that the applicant's need for power analysis was inadequate because the information could not be assessed pending preparation of an updated IRP.[312] The *Vogtle* Board rejected this claim, finding that a contention must be based on documents available at the time the petition is filed.[313] The fact that a new IRP was being prepared did not demonstrate that the applicant's analysis in the ER was flawed in any way.[314] Similarly, TVA's recent notice of intent to revise its 1995 IRP EIS has no impact on the adequacy of its need for power analysis in its 2007 FSEIS.[315]

(ii) Petitioners' Argument that TVA's Need for Power Analysis is Deficient Because It Does Not Consider the Effects of the National Economic Crisis Fails to Raise a Material Issue and Does Not Present a Genuine Dispute

Petitioners' next basis, that TVA's need for power analysis is deficient for failing to consider the effects of the national economic crisis, fails to present an issue that is material to this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iv), and fails to present a genuine dispute on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

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310 Petition at 18 (*citing* Environmental Impact Statement; Integrated Resource Plan, 74 Fed. Reg. 28,322 (June 15, 2009) (notice of intent)).

311 *Vogtle*, LBP-07-3, 65 NRC at 272 (stating, in relation to a contention found to be inadmissible, that "[t]he fact that a new analysis is being prepared, taken alone, does not provide support for the claim that the [need for power] analysis in the ER is flawed").

312 *Id.* at 271-72.

313 *Id.* at 272 (*citing* 10 C.F.R. § 2.309(f)(2)).

314 *Id.*

315 Furthermore, Petitioners are not precluded from participating in TVA's current preparation of a programmatic EIS and IRP. Not only will "TVA use the EIS process to . . . provide opportunities for public review and comment," but TVA specifically invites public comment regarding "the scope of the EIS and environmental issues that should be addressed as part of this EIS." *Tennessee Valley Authority*, Notice of Intent, Environmental Impact Statement; Integrated Resource Plan, 74 Fed. Reg. 28,322 (June 15, 2009).

By alleging undefined and general "uncertainties" with regard to *future* electricity demand due to *current* economic conditions,[316] Petitioners ignore a well-established principle governing review of need for power forecasts in NRC adjudicatory proceedings – namely that it is not possible or *required* to precisely predict energy demand many years in the future. In the leading case, *Niagara Mohawk Power Corp.*, the Appeal Board held that "inherent in any forecast of future electric power demands is a substantial margin of uncertainty," and therefore the applicant's projection of future need should be accepted if it is "reasonable." [317] As the Appeal Board held in a later case:

> [A] forecast that such need exists is not to be discarded as fatally flawed simply because the *future course of events is sufficiently clouded to give rise to the possibility of a significant margin of error*. Given the legal responsibility imposed upon a public utility to provide at all times adequate, reliable service – and the severe consequences which may attend upon a failure to discharge that responsibility – *the most that can be required is that the forecast be a reasonable one in the light of what is ascertainable at the time made*.[318]

This standard was endorsed by the Commission in *Carolina Power and Light Co.*, where it stated:

> The Nine Mile Point rule recognizes that every prediction has associated uncertainty and that long-range forecasts of this type are especially uncertain in that they are affected by trends in usage, increasing rates, demographic changes, industrial growth or decline, *the general state of the economy*, etc. These factors exist even beyond the uncertainty that inheres to demand forecasts: assumptions on continued use from historical data, range of years

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316 Petitioners also seek to have it both ways by contending that TVA's need for power analysis is deficient for allegedly failing to consider *long term* future needs (up to 40 years) and allegedly failing to consider the *near term* changes in the economy (since 2007). *See* Petition, Attachment 5 at 2.

317 *Niagara Mohawk Power Corp.* (Nine Mile Point Nuclear Station, Unit 2), ALAB-264, 1 NRC 347, 365-67 (1975).

318 *Wolf Creek*, ALAB-462, 7 NRC at 328 (emphasis added).

> considered, the area considered, extrapolations from usage in residential, commercial, and industrial sectors, etc.[319]

Similarly, the Appeal Board in *Catawba* ruled that an applicant's load forecasts

> are [not] automatically suspect because they are inclined to be "conservative," that is to say they tend to project future loads closer to the high than to the low end of the demand spectrum. To be sure, if demand does turn out to be less than predicted it can be argued (as intervenor does) that the cost of the unneeded generating capacity may turn up in the customers' electric bills. . . . But should the opposite occur and demand outstrip capacity, the consequences are far more serious.[320]

And, the Board in the *Clinton* early site permit ("ESP") proceeding stated that:

> [W]e are cognizant of the fact that a NEPA analysis often must rely upon imprecise and uncertain data, particularly when attempting to forecast future markets and technologies, and Boards (and parties) must appreciate the fact that such forecasts "provide no absolute answers," and must be "judged on their reasonableness." NEPA analyses are subject to a "rule of reason" which teaches that an environmental impact statement need only discuss "the significant aspects of the probable environmental impact of the proposed agency action."[321]

Most recently, in September 2008, and February 2009, two other Boards found contentions similar to Proposed Contention 4, which alleged that the applicant's need for power analysis was insufficient for failure to consider the effects of the current economic crisis, to be inadmissible.[322] Therefore, there is simply no basis for the assertion that TVA must precisely

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[319] *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, & 4), CLI-79-5, 9 NRC 607, 609-10 (1979) (emphasis added).

[320] *Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), ALAB-355, 4 NRC 397, 410 (1976).

[321] *Exelon Generation Co.* (Early Site Permit for Clinton ESP Site), LBP-05-19, 62 NRC 134, 167, *aff'd* CLI-05-29, 62 NRC 801 (2005), *aff'd sub nom. Envtl. Law & Policy Ctr. v. NRC*, 470 F.3d 676 (7th Cir. 2006) (emphasis omitted).

[322] *See Virgil C. Summer*, LBP-09-02, slip op. at 21 (Feb. 18, 2009) (rejecting Petitioner's assertion that the applicant failed to consider the current economic crisis in its need for power analysis, for failure to challenge the application with specificity or provide sufficient information to show a genuine dispute); *Bellefonte*, LBP-08-16, slip op. at 47-48 (Sept. 12, 2008) (rejecting contention asserting that applicant's ER should have included various low, no or negative growth scenarios based on near-term economic conditions, for failure to establish materiality or sufficient support for an admissible contention).

(and continually) consider the impact of every change in current economic conditions on future energy demands.

Further, TVA explicitly considered a low or no economic growth scenario in both the 1995 IRP EIS and 2007 FSEIS need for power analyses that effectively provides what Petitioners seek regarding the current economic downturn.[323] As demonstrated by Figure 1-3 in the 2007 FSEIS, the low-load forecast employed by TVA included negative and no growth scenarios.[324] Furthermore, consistent with the aforementioned Commission precedent, TVA not only recognized that load forecasts involve a degree of uncertainty, but also took those uncertainties—including economic uncertainty—deliberately into account.[325]

Importantly, Petitioners do not establish how considering a *more* pessimistic low economic growth scenario will impact the need for power analysis. Petitioners' expert's criticisms focus on what they allege TVA failed to consider—unemployment rates in Tennessee and Alabama, the recent short-term decline of power sales, and the implications of delay in construction or operation on plant economics.[326] Neither Petitioners nor Petitioners' expert, Dr. Makhijani, however, explain how consideration of these specific, current economic factors will materially impact the results of the need for power analysis.[327] Furthermore, Petitioners have not established how such short term differences between predicted and actual demand are

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[323] 2007 FSEIS at 12.

[324] *Id.*, Fig. 1-3 at 13.

[325] *See Private Fuel Storage, L.L.C.* (Indep. Spent Fuel Storage Installation), CLI-04-22, 60 NRC 125, 141-45 (2004) (affirming Board's rejection of a contention challenging a cost-benefit analysis under NEPA, where petitioner argued that the point for when the costs of the project would equal its benefits were "unrealistic," as impermissible quibbling over the details of an economic analysis).

[326] *See* Makhijani Report at 2-4.

[327] *Id.* .

material to a long term need for power analysis.[328] Moreover, TVA specifically stated that even under the low growth scenario, there is a need for WBN Unit 2 in 2013 because it will provide, "additional fuel diversity, operating flexibility, and a lower delivered cost of power."[329] Thus, Petitioners have failed to demonstrate the materiality of this basis or a genuine dispute on a material issue of fact or law.[330]

Finally, Petitioners blatantly speculate about the possibility that certain ill-defined future events might occur that could affect the results of TVA's analysis, such as possible changes in "impending climate legislation, and the vast technological changes that are currently ongoing in the electricity production and management sectors."[331] However, Petitioners provide no basis for postulating the likelihood of such conditions—so as to remove them from the fatal realms of remoteness and speculation—nor, even assuming the occurrence of such undefined events, explain how such changes would impact the need for power analysis set forth in the 2007 FSEIS. For example, Petitioners do not identify what "vast technological changes" they are referring to, do not identify when such technological changes may occur, and do not specify what the likely impact of such technological changes will be on power demand.[332]

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328 *See Catawba,* ALAB-355, 4 NRC at 410 (citations omitted) (affirming Board's dismissal of intervenor's contention, which attempted to rest a long term forecast of an "applicant's peak load demands on changes which took place in the *last two years*") (emphasis added).

329 2007 FSEIS at 15.

330 *See Private Fuel Storage*, CLI-04-22, 60 NRC at 145 (stating that "[q]uibbling over the details of an economic analysis in this situation is . . . 'standing NEPA on its head' by asking that the license be rejected not due to environmental costs, but because the economic benefits [allegedly] are not as great as estimated in the [ER]"); *Virgil C. Summer*, LBP-09-02, slip op. at 21 (holding that Petitioners failed to demonstrate materiality and to present a genuine dispute on a material issue, where Petitioners' expert did not quantify the impact of the economic downturn on applicant's need for power analysis or provide any alternative analysis); *Bellefonte*, LBP-08-16, slip op. at 44 & 47-48 (dismissing contention asserting applicant's failure to consider a number of economic factors rendered applicant's need for power analysis deficient, where petitioners failed to demonstrate the materiality of applicant's alleged failure to consider near-term economic conditions).

331 Petition at 21.

332 *See id.*

In view of the above, Petitioners' first claim fails to raise issues that are material to the need for power analysis and fails to raise a genuine dispute on a material issue of law or fact contrary to 10 C.F.R. § 2.309(f)(1)(iv) and (vi), and must be dismissed.

(iii) Petitioners' Second Claim that TVA's Preferred Alternative of Completing Construction of and Operating WBN Unit 2 is Unjustified Raises Issues That Are Beyond the Scope of this Proceeding, Lacks Adequate Factual Support, and Fails to Raise a Genuine Dispute

Petitioners' second claim that TVA's preferred alternative of completing construction of and operating WBN Unit 2 to supply baseload power is unjustified also fails because it raises issues that are outside the scope of this proceeding, lacks adequate factual support, and fails to present a genuine dispute on a material issue of law or fact.

In this regard, Petitioners assert that the 2007 FSEIS is deficient because: (1) it does not analyze alternative sources of energy or alternatives to reduce demand;[333] (2) it does not offer any supporting analysis for choosing WBN Unit 2 or a comparative analysis of the costs and emissions associated with WBN Unit 2 as opposed to efficiency and demand alternatives;[334] (3) TVA cannot rely on the 1995 IRP EIS's alternatives analysis since it decided to pursue operation of WBN Unit 2[335] and WBN Unit 2 was excluded from the 1995 IRP EIS's "preferred portfolio" of energy options;[336] and (4) it erroneously finds that WBN Unit 2 will reduce its dependence on fossil fuel because it failed to consider renewable energy sources that are now capable of meeting baseload capacity, such as wind energy.[337]

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[333] *Id.* at 19-20.

[334] *Id.* at 18-19.

[335] *Id.* at 20.

[336] *Id.* at 18-19.

[337] *See id.* at 19-20.

Here again, Petitioners mischaracterize or ignore substantial information presented by TVA on energy alternatives. First, as noted above, and stated in Section 2.0 of the 2007 FSEIS, TVA tiers off the TVA 1972 FES and the 1995 IRP EIS, in its analysis of alternatives.[338] In the 1995 IRP EIS, TVA presents a detailed and extensive analysis of alternatives. TVA developed and compared more than 2,000 different strategies consisting of combinations of energy resource options, including both supply-side and demand-side sources.[339] Second, TVA considered the performance, cost, and environmental emissions for each supply-side option, including WBN Unit 2.[340] In both the 2007 FSEIS and 1995 IRP EIS, TVA also considered alternatives to reduce demand or demand-side management options.[341] Petitioners do not challenge, or even specifically address, the alternatives analysis presented in the 1995 IRP EIS and thus, Petitioners' argument that TVA failed to analyze alternative sources of energy or alternatives to reduce demand does not present a genuine dispute on a material issue of fact.

Third, Petitioners provide no support for their argument that TVA may not rely on the alternatives discussion in its 1995 IRP EIS.[342] While WBN Unit 2 was not included in its portfolio of preferred strategies in 1995 based on conservative assumptions relating to performance of its nuclear units, TVA deliberately and explicitly left open the option of completing WBN Unit 2.[343] As noted previously, the 1995 IRP EIS specifically included a strategy, Strategy K, which noted that completion of WBN Unit 2 becomes a viable option when

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338 2007 FSEIS at 19.

339 1995 IRP EIS at 2.4, 7.10-7.11 & 9.22.

340 *See id.* at 7.10-7.11 & 9.10.

341 *See* 2007 FSEIS at 11 & 14; *see generally* 1995 IRP EIS, Ch. 8 (Customer Service Options).

342 *See* Makhijani Report at 9.

343 *See* 2007 FSEIS at 19; 1995 IRP EIS at 16-17 (Executive Summary) (stating that TVA will keep open the possibility of completing WBN Unit 2).

nuclear performance improves.[344] This Strategy K was one of the "lowest cost strateg[ies]" when there is good nuclear performance.[345] As noted in the 2007 FSEIS, the assumed capacity factor of TVA nuclear units is now 90 percent – "a significant improvement over the assumed capacity factor in the [1995 IRP EIS] (67 percent)."[346] Therefore, TVA's choice of WBN Unit 2 as the preferred alternative in the 2007 FSEIS is, contrary to Petitioners' assertions, entirely consistent with the 1995 IRP EIS.

Fourth and finally, Petitioners' assertion that wind energy could replace the baseload generation needs identified by TVA in the 2007 FSEIS lacks adequate factual support.[347] Petitioners' expert, Dr. Makhijani, relies on two documents to support his assertion that wind energy can supply the needed baseload capacity – a 2006 report published by the National Renewable Energy Laboratory ("NREL") ("NREL 2006 Report") and the *American Wind Energy Association Annual Wind Industry Report for Year Ending 2008* ("AWEA Annual Report").[348] Neither of these documents supports this assertion. The NREL 2006 Report explores the *possibility* that wind energy can meet baseload capacity requirements, but does not demonstrate that it is a current reality.[349] The AWEA Annual Report does not even discuss the possibility of wind energy becoming a baseload generating source, but rather explains the growth

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344 *See* 1995 IRP EIS at 9.31.

345 *See id.*.

346 2007 FSEIS at 14; *see also id.* at 19.

347 Note that TVA itself analyzed wind turbines as a possible supply-side baseload option in its 1995 IRP EIS, but it did so recognizing that wind turbines were a "promising new technolog[y] . . . being used outside the TVA region where climate and other conditions are favorable." 1995 IRP EIS at 7.7.

348 Makhijani Report at 6-7.

349 Nat'l Renewable Energy Lab., *Creating Baseload Wind Power Systems Using Advanced Compressed Air Energy Storage Concepts* (Oct. 3, 2006), *available at* http://www.nrel.gov/docs/fy07osti/40674.pdf. The NREL 2006 Report also notes, as part of the background for this report, that the "expanded use of wind energy has been *proposed* to reduce dependence on fossil and nuclear fuels for electricity generation." *Id.* (emphasis added).

of the wind industry, in general.[350] Furthermore, the AWEA Annual Report cites to a U.S. Department of Energy report ("DOE Report") that shows that no wind projects in the continental U.S. have a capacity factor exceeding 40 percent.[351] In contrast, the 2007 FSEIS need for power analysis defined baseload capacity as consisting of "all resources with expected capacity factors greater than *65 percent*."[352] Beyond the NREL 2006 Report and the AWEA Annual Report, Petitioners and their expert offer no support that wind energy, or any other source of alternative energy, could replace the baseload generation needs identified by TVA and thus, Petitioners have failed to provide adequate factual or expert support for their second claim, contrary to 10 C.F.R. § 2.309(f)(1)(v).[353]

In Summary, Petitioners' second claim relating to the consideration of alternatives raises issues that are not within the scope of this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii), that lack adequate factual and expert support, contrary to 10 C.F.R. § 2.309(f)(1)(v), and that fail to present a genuine dispute on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). For these and other reasons discussed above, Proposed Contention 4 must be dismissed in its entirety.

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350 *See generally* Am. Wind Energy Ass'n, *American Wind Energy Association Annual Wind Industry Report* (2009), *available at* http://www.awea.org/publications/reports/AWEA-Annual-Wind-Report-2009.pdf.

351 *See* U.S. Department of Energy, *20% Wind Energy By 2030: Increasing Wind Energy's Contribution to U.S. Electricity Supply* at 24. The only region listed with a wind energy capacity factor higher than 40% is Hawaii, whose capacity factor in 2006 is listed as 45%.

352 2007 FSEIS at 15 n.2 (emphasis added).

353 *See Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), CLI-05-29, 62 NRC 801, 811 (2005) (affirming Board's rejection of intervenors' assertion that the consideration of a combination facility should have allocated a greater proportion to wind power in the DEIS for lack of support and materiality, and intervenors' failure to address the fundamental point that "solar and wind power, by definition, are not always available").

5. Proposed Contention 5 (Proposed Waste Confidence Decision and Proposed Spent Fuel Storage Rule) Is Inadmissible Because It Raises Issues Outside the Scope of the Proceeding.

a. Overview of Proposed Contention and Supporting Bases

As framed by Petitioners, Proposed Contention 5 asserts that:

> Neither the Proposed Waste Confidence Decision nor the Proposed Spent Fuel Storage Rule satisfies the requirements of NEPA or the Atomic Energy Act, and thus do not provide adequate support for any NEPA determination in this proceeding regarding the environmental impacts of spent fuel storage or disposal. The deficiencies in the Proposed Waste Confidence Decision also fatally undermine the adequacy of the NRC's findings in Table S-3 of 10 C.F.R. § 41.41 to satisfy NEPA. Unless and until the NRC remedies the deficiencies in the proposed Waste Confidence Decision, Table S-3, and the Proposed Spent Fuel Storage Rule, the NRC has no lawful basis to issue a license for WBN Unit 2.[354]

Petitioners base their proposed contention on comments submitted by SACE, BREDL, and the Sierra Club to the NRC on February 6, 2009 regarding the NRC's Proposed Waste Confidence Decision and Proposed Temporary Storage Rule, and the expert declarations and reports of Dr. Arjun Makhijani and Dr. Gordon Thompson included with those comments.[355] In this proposed contention, Petitioners "seek to ensure . . . that whatever decisions the NRC reaches in response to [Petitioners'] Comments on the Proposed Waste Confidence Decision and Proposed Temporary Storage Rule will be applied in a timely way to the licensing decision for WBN Unit 2, *i.e.*, before the plant is licensed."[356] Petitioners also explicitly "recognize that the issues raised . . . are generic in nature" and state that they "*do not seek to litigate them in this individual proceeding.*"[357] Instead, the Petitioners request that their proposed contention be admitted and held in abeyance "in order to avoid the necessity of a premature judicial appeal if

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[354] Petition at 21-22.

[355] *See id.* at 22.

[356] *Id.* at 23.

[357] *Id.* (emphasis added).

this case should conclude before the NRC has completed the rulemaking proceeding."[358] In the alternative, Petitioners ask the Board to refer their proposed contention to the Commission if the Board determines it does not have authority to admit the proposed contention "because it presents a challenge to a generic rule."[359]

b. Proposed Contention 5 Is Not Admissible and Should Be Dismissed

As the Petitioners readily admit, Proposed Contention 5 consists entirely of challenges to the ongoing rulemaking proceeding regarding the Proposed Waste Confidence Decision and the Proposed Temporary Storage Rule.[360] Therefore, Proposed Contention 5 raises issues beyond the scope of this proceeding and should be dismissed.

(i) Proposed Contention 5 Impermissibly Challenges Matters that are the Subject of Ongoing Rulemaking Activity

According to long-standing Commission precedent, a contention that raises a matter that is, or is about to become, the subject of a rulemaking, falls outside the scope of the proceeding and is inadmissible.[361] Further, absent a waiver, "no rule or regulation of the Commission . . . is subject to attack by way of discovery, proof, argument, or other means in any adjudicatory proceeding."[362] Additionally, several Boards recently have found identical or nearly-identical

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358 *Id.* at 23-24.

359 *Id.* at 24.

360 *See id.* at 21-26; Consideration of Environmental Impacts of Temporary Storage of Spent Fuel After Cessation of Reactor Operation, 73 Fed. Reg. 59,547 (Oct. 9, 2008) (proposed rule); Waste Confidence Decision Update, 73 Fed. Reg. 59,551 (Oct. 9, 2008) (update and proposed revision of waste confidence decision).

361 *See Oconee*, CLI-99-11, 49 NRC at 345 (*citing Douglas Point*, ALAB-218, 8 AEC at 85); *see also* Conduct of New Reactor Licensing Proceedings, 73 Fed. Reg. at 20,972 (referring to the Commission's "longstanding precedent that 'licensing boards should not accept in individual license proceedings contentions which are (or are about to become) the subject of general rulemaking by the Commission'") (citation omitted).

362 10 C.F.R. § 2.335(a). Even if Petitioners had requested a waiver, they would not qualify for one. The Commission has stated that "[w]aiver of a Commission rule is simply not appropriate for a generic issue." *Conn. Yankee Atomic Power Co.* (Haddam Neck Plant), CLI-03-7, 58 NRC 1, 8 (2003) (*citing Metro. Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-80-16, 11 NRC 674, 675 (1980)). Similarly, the Commission has stated that a waiver may only be granted under circumstances that are "unique" to a facility

challenges to the same Proposed Waste Confidence Decision and Proposed Temporary Storage Rule to be inadmissible as impermissible challenges to an ongoing rulemaking and policy review.[363] Likewise, Proposed Contention 5 admittedly and impermissibly challenges an ongoing rulemaking and thus, should be dismissed. For this reason alone, this proposed contention must be rejected.

(ii) Proposed Contention 5 Should Not be Held in Abeyance

In the alternative, the Petitioners suggest that "the contention should be admitted and held in abeyance in order to avoid the necessity of a premature judicial appeal if this case should conclude before the NRC has completed the rulemaking proceeding."[364] There is simply no legal basis for such a request, and as such, it too must be rejected.

When a proposed contention attacks a Commission rule or raises an issue within the scope of a rulemaking proceeding, the appropriate response is to reject the contention as contrary to 10 C.F.R. § 2.335, *not* to hold it in abeyance. There is nothing in 10 C.F.R. § 2.335 that authorizes holding an otherwise *inadmissible* contention in abeyance pending completion of a rulemaking.[365] Tellingly, the Petitioners do not cite any case law that allows a licensing board to

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rather than "common to a large class of facilities." *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 & 3), CLI-05-24, 62 NRC 551, 560 (2005) (*quoting Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), CLI-88-10, 28 NRC 573, 593 & 597 (1988)). As the Petitioners have admitted, nothing raised in Proposed Contention 5 is unique to WBN Unit 2 and this contention is entirely generic. *See* Petition at 23 ("Petitioners recognize that the issues . . . are generic in nature . . .").

363 *See* Licensing Board Order (Denying Motion to Admit Proposed Contention Nine) at 6, *Va. Electric & Power Co.* (Combined License Application for North Anna Unit 3), No. 50-017-COL (June 2, 2009) (unpublished) ("June 2, 2009 *North Anna* Order"); Licensing Board Memorandum and Order (Ruling on Request to Admit New Contention) at 12, *Tenn. Valley Auth.* (Bellefonte Nuclear Power Plant Units 3 & 4), Nos. 52-014-COL & 52-15-COL (Apr. 29, 2009) (unpublished) ("April 29, 2009 *Bellefonte* Order").

364 Petition at 23-24.

365 10 C.F.R. § 2.802(d) allows a person who submits a petition for rulemaking to "request the Commission to suspend all or any part of any licensing proceeding to which the petitioner is a party pending disposition of the petition for rulemaking." However, this regulation is of no assistance to the Petitioners, since the Petitioners did not submit a petition for rulemaking and have not submitted a request to the Commission to suspend this proceeding (nor have they justified such a request).

hold such an inadmissible contention in abeyance.[366] Indeed, holding Proposed Contention 5 in abeyance could serve as an improper suspension of the entire proceeding, which the Commission has characterized as a "drastic course of action" that is only warranted for "immediate threats to public health and safety."[367] Thus, it has expressed its reluctance to suspend proceedings given the "substantial public interest in efficient and expeditious administrative proceedings."[368]

Furthermore, the only reason that the Petitioners provide for holding Proposed Contention 5 in abeyance is that, if they are dismissed from this proceeding prior to completion of the rulemaking, then they "will be required to appeal the substantive issues raised by their contention before the issues are ripe."[369] Petitioners' argument is based upon a faulty premise. If the Board rejects this proposed contention, then the Petitioners would only be able to appeal the decision on admissibility of Proposed Contention 5, *not* on any substantive issues raised in Proposed Contention 5 regarding the proposed rulemaking proceeding.[370]

In summary, there is no legal basis for admitting Proposed Contention 5 and then holding it in abeyance. Accordingly, Petitioners' request should be denied.

(iii) Proposed Contention 5 Should Not be Referred to the Commission

Finally, Petitioners argue that "[i]f the ASLB does not consider that it has the authority to admit the contention because it presents a challenge to a generic rule, Petitioners request the

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366 In fact, the Commission recently declined to grant a request to hold an otherwise inadmissible contention in abeyance. *See Shaw Areva MOX Servs., LLC* (Mixed Oxide Fuel Fabrication Facility), CLI-09-02, slip op. at 9-13 (Feb. 4, 2009); *see also Catawba*, ALAB-687, 16 NRC at 466-67 (explaining that a licensing board is not authorized to conditionally admit contentions that do not meet the admissibility criteria). Proposed Contention 5 suffers from this same fundamental defect.

367 *Vt. Yankee Nuclear Power Corp.* (Vt. Yankee Nuclear Power Station), CLI-00-20, 52 NRC 151, 173-74 (2000).

368 *Oconee*, CLI-99-11, 49 NRC at 339.

369 Petition at 24 n.5.

370 *See* 10 C.F.R. § 2.311(c) (a petitioner may appeal an order denying a petition to intervene or request for hearing "on the question as to whether the request and/or petition should have been granted").

ASLB to refer the contention to the Commission."[371] The Petitioners, however, have not satisfied the requirements for referral of an issue to the Commission.

NRC regulations state that the Commission will review a referred ruling only if it "raises significant and novel legal or policy issues, and resolution of the issues would materially advance the orderly disposition of the proceeding."[372] These circumstances are clearly not present here, much less addressed by Petitioners. The issues raised by Proposed Contention 5 are not novel, and in fact are resolved by existing regulations, including 10 C.F.R. § 51.23 and Table S-3.[373] Moreover, the issues raised by Proposed Contention 5 have been repeatedly raised—and rejected—in other proceedings.[374] Resolution of the issues also would not materially advance the orderly disposition of the proceeding because, as acknowledged by the Petitioners, these issues are generic and should not be litigated in the WBN Unit 2 operating license proceeding.[375]

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371 Petition at 24.

372 10 C.F.R. § 2.341(f)(1).

373 Contrary to Petitioners' assertion, nothing in the Proposed Waste Confidence Decision undermines the validity of the existing regulations. *See* Petition at 21, 24.

374 *See Progress Energy Fla., Inc.* (Combined License Application for Levy County Nuclear Power Plant, Units 1 & 2), LBP-09-10, slip op. at 98, 103 (July 8, 2009); June 2, 2009 *North Anna* Order at 6-7; April 29, 2009 *Bellefonte* Order at 11-12; Licensing Board Memorandum and Order (Regarding BREDL's New Contention Eleven) at 2-3 & 4-5, *Duke Energy Carolinas, LLC* (Combined License Application for William States Lee III Nuclear Station, Units 1 & 2), No. 52-018-COL (unpublished) (April 29, 2009) at 2-3, 4-5; *see Turkey Point*, LBP-01-6, 53 NRC at 161-62 (finding petitioner's proposed contention inadmissible as an impermissible challenge to the NRC's Waste Confidence Rule).

375 *See* June 2, 2009 *North Anna* Order at 7 (citing 10 C.F.R. § 2.341(f)(1) and stating that the standard for referral of a contention similar to Proposed Contention 5 was not met because its ruling did not raise "'significant and novel legal or policy issues,' the resolution of which 'would materially advance the orderly disposition of the proceeding'"); April 29, 2009 *Bellefonte* Order at 13 (same).

6. Proposed Contention 6 (TVA's EIS Fails To Satisfy The Requirements Of NEPA Because It Does Not Contain An Adequate Analysis Of The Environmental Effects Of The Impact Of A Large, Commercial Aircraft Into The Watts Bar Nuclear Plant) Is Inadmissible Because It Raises Issues Outside the Scope of the Proceeding.

a. Overview of Contention and Supporting Bases

As framed by Petitioners, Proposed Contention 6 asserts that:

> NEPA and NRC regulations require TVA to include in its EIS an analysis of "reasonably foreseeable" impacts which have "catastrophic consequences, even if their probability of occurrence is low." 40 C.F.R. § 1502.22(b)(1). An aircraft attack on WBN is a reasonably foreseeable event with potentially catastrophic consequences. TVA's discussion and analysis of the impacts of such an event, however, falls woefully short of what is required by NEPA and, therefore, must be revisited.[376]

As bases for their proposed contention, Petitioners first claim that NEPA requires TVA to analyze the impacts of an aircraft attack on WBN because such impacts "are reasonably foreseeable and potentially catastrophic, even if the probability of such an attack occurring is low."[377] Petitioners contend that these impacts are reasonably foreseeable and potentially catastrophic because the Commission addressed aircraft attacks several times since September 11, 2001, and recently issued two final rules relating to the impacts of an aircraft attack—the Power Reactor Security Rule, published at 74 Fed. Reg. 13,926 (Mar. 27, 2009), and the Aircraft Impacts Rule, published at 74 Fed. Reg. 28,112 (June 12, 2009).[378]

Petitioners further claim that TVA's treatments of aircraft attacks in the 2007 FSEIS and SAMA analysis are insufficient to satisfy the requirements of NEPA because "they fail to address the environmental impacts of aircraft attacks on WBN Unit 2."[379] They also disagree

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[376] Petition at 27.

[377] *Id.* at 29.

[378] *Id.* at 27.

[379] *Id.* at 31.

with TVA's discussion of an aircraft impact analysis conducted by the Electric Power Research Institute ("EPRI"), referred to in the 2007 FSEIS.[380] Petitioners believe the EPRI study is not applicable to WBN Unit 2 because it is not the design-specific impact assessment required by the new Aircraft Impacts Rule and that "there is substantial evidence that the containment unit found in Watts Bar Unit 2 is in fact significantly less resistant to impacts than other containment models."[381] They also claim that TVA's statement that the EPRI analysis is consistent with NRC research is unsupported.[382]

Petitioners next contend that TVA's discussion in the 2007 FSEIS of steps it has taken since September 11th to enhance security at WBN cannot substitute for a discussion of environmental impacts.[383] Finally, while acknowledging the Commission's refusal to apply this precedent outside the U.S. Ninth Circuit, Petitioners argue that the 2006 decision of the U.S. Court of Appeals for the Ninth Circuit in *San Luis Obispo Mothers for Peace v. NRC* requires the NRC to address the impacts of aircraft attacks on nuclear power plants in its NEPA analyses in all reactor licensing decisions.[384]

b. Proposed Contention 6 Is Not Admissible and Should be Dismissed

Proposed Contention 6 is inadmissible because it directly challenges Commission precedent and regulations, contrary to 10 C.F.R. § 2.309(f)(1)(iii).

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380 *Id.* at 29-30.

381 *Id.* at 30 (referring to the NRC's Regulatory Analysis, Proposed Action to Address Generic Safety Issue 189: Susceptibility of Ice Condenser and Mark III Containments to Early Failure from Hydrogen Combustion During Severe Accident (May 24, 2005) as providing such substantial evidence).

382 *Id.*

383 *See id.*

384 *Id.* at 31 (*citing San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016 (9th Cir. 2006)) & n.7.

Initially, as Petitioners readily acknowledge, the Aircraft Impacts Rule does not apply to WBN Unit 2.[385] Specifically, in the Statement of Considerations for that rule, the NRC states, "the requirements [to comply with this rule] *are not meant to apply to current or future operating license applications for which construction permits were issued before the effective date of this final rule.*"[386] Therefore, as Petitioners admit, TVA is not required to conduct any assessment set forth in the Aircraft Impacts Rule for WBN Unit 2.

More importantly, since the events of September 11, 2001, the Commission and its licensing boards have consistently held that the NRC does not need to consider, as part of its environmental review, terrorist attacks on nuclear power plants.[387] In *Grand Gulf*, for example, the Commission refused to admit a NEPA-terrorism contention in a 10 C.F.R. Part 52 early site permit proceeding.[388] Relying on the reasoning in its *Oyster Creek* decision, the Commission stated:

> "The 'environmental' effect caused by third-party miscreants 'is . . . simply too far removed from the natural or expected consequences of agency action to require a study under NEPA.'" The claimed impact is too attenuated to find the proposed federal action to be the "proximate cause" of that impact.[389]

In *Oyster Creek*, the Commission expressly rejected the assertion that the Ninth Circuit's decision in *Mothers for Peace* requires the NRC and its licensees to address the environmental

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385 *See id.* at 28 n.6 (*citing* Consideration of Aircraft Impacts for New Nuclear Power Reactors, 74 Fed. Reg. 28,112, 28,115 (June 12, 2009) (final rule)).

386 Consideration of Aircraft Impacts for New Nuclear Power Reactors, 74 Fed. Reg. at 28,115 (emphasis added).

387 *See, e.g.*, *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-07-8, 65 NRC 124 (2007); *Sys. Energy Res., Inc.* (Early Site Permit for Grand Gulf ESP Site), CLI-07-10, 65 NRC 144 (2007); *Nuclear Mgmt. Co., LLC* (Palisades Nuclear Plant), CLI-07-9, 65 NRC 139 (2007); *see also Vogtle*, LBP-07-3, 65 NRC at 269 & n.16 (*citing* cases).

388 *Grand Gulf*, CLI-07-10, 65 NRC at 146.

389 *Id.* at 146-47 (*quoting Oyster Creek*, CLI-07-8, 65 NRC at 129).

costs of a successful terrorist attack on a nuclear plant.[390] The Commission explained that, while it was required to comply with the Ninth Circuit's remand in the *Diablo Canyon* proceeding, it "is not obliged to adhere, in all of its proceedings, to the first court of appeals decision to address a controversial question."[391] This remains the Commission's official position today. Where a matter has been considered by the Commission, it may not be reconsidered by a Board.[392]

Further, in denying petitions for rulemaking to amend 10 C.F.R. Part 51 to take into account new and significant information showing that an accident or malicious act, such as a terrorist attack, could result in the draining of a spent fuel pool's cooling water, the Commission reaffirmed that "an analysis of the environmental impacts of a hypothetical terrorist attack on an NRC-licensed facility is not required under NEPA."[393] Recently, the U.S. Court of Appeals for the Third Circuit affirmed the Commission's position that "terrorist attacks are 'too far removed from the natural or expected consequences of agency action' to require an environmental impact analysis."[394] The Commission's prior decisions on this same issue, thus, require that Proposed Contention 6 be rejected.

Consistent with this line of Commission precedent, several Licensing Boards in other proceedings have denied proposed contentions similarly alleging that the applicants had

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390 *See Oyster Creek*, CLI-07-8, 65 NRC at 128-29.

391 *Id.* Furthermore, the Ninth Circuit Court of Appeals recently upheld the NRC's decision to exclude the threat of air-based attacks from the scope of its Design Basis Threat ("DBT") rule and to exclude an analysis of air-based threats from its consideration of alternatives in the rule's accompanying Environmental Assessment. *See Pub. Citizen v. NRC*, No. 07-71868, slip op. at 9638-39 (9th Cir. July 24, 2009).

392 *See Va. Elec. & Power Co.* (North Anna Nuclear Power Station, Units 1 & 2), ALAB-584, 11 NRC 451, 463-65 (1980); *Vogtle*, LBP-07-3, 65 NRC at 269.

393 The Attorney General of Commonwealth of Massachusetts, The Attorney General of California; Denial of Petitions for Rulemaking, 73 Fed. Reg. 46,204, 46,211 (Aug. 8, 2008) ("Rulemaking Petition Denial") (*citing Oyster Creek,* CLI-07-8, 65 NRC at 128-29).

394 *N.J. Dep't of Envtl. Prot. v. NRC*, No. 07-2271, slip op. at 4-5 (3d Cir. March 31, 2009).

improperly excluded an environmental analysis of the environmental impacts of hypothetical aircraft attack on their proposed new reactors.[395] As the *Bellefonte* Board summarized:

> In various rulings, the Commission has made clear its position that a NEPA analysis is not the vehicle for exploring questions about the potential for a terrorist attack upon a proposed nuclear facility. The Board is in no position to reconsider these legal rulings by the Commission. In this case being litigated far beyond the boundaries of the Ninth Circuit, we must apply the Commission's case law directives. Consequently, the contention must be dismissed.[396]

Likewise, Petitioners' attempt to use NEPA as an instrument to explore questions relating to the potential for a terrorist attack in this proceeding, that is also being litigated outside the boundaries of the Ninth Circuit, must be dismissed.

Moreover, TVA's 2-page discussion on the possible impacts of terrorism on WBN Unit 2 in Chapter 3 of the 2007 FSEIS reiterates the aforementioned bases for this line of precedent; *i.e.*, that an analysis of the environmental impacts of an aircraft attack on WBN Unit 2 is remote and speculative. In Section 3.12.2 of the 2007 FSEIS, TVA expresses its belief, consistent with the Commission's position, that "the possibility of a terrorist attack affecting operation of WBN Unit 2 . . . is very remote and that postulating potential health and environmental impacts from a terrorist attack involves substantial speculation."[397] Throughout this section, TVA describes its efforts to increase the security of WBN operations despite the very remote risk of a terrorist attack affecting WBN operations, as demonstrated by the EPRI analysis.[398] As both the Third

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395 *See Virgil C. Summer*, LBP-09-02, slip op. at 16-17; *Progress Energy Carolinas, Inc.* (Shearon Harris Nuclear Power Plant, Units 2 & 3), LBP-08-21, slip op. at 14 (Oct. 30, 2008); *Duke Energy Carolinas, LLC* (Combined License Application for William States Lee III Nuclear Station, Units 1 & 2), LBP-08-17, slip op. at 27-28 (Sept. 22, 2008); *Bellefonte*, LBP-08-16, slip op. at 30.

396 *Bellefonte*, LBP-08-16, slip op. at 30 (internal citation omitted).

397 2007 FSEIS at 75.

398 *Id.* at 75-76. Petitioners' argument that the EPRI analysis is insufficient because it is not a "design-specific" impact assessment as required by the Aircraft Impacts Rule is to no avail because, as readily acknowledged by Petitioners and discussed above, the Aircraft Impacts Rule does not apply to WBN Unit 2. *See* Petition at 28 n.6. Furthermore, Petitioners' argument regarding the EPRI analysis does not affect the fact that a hypothetical

Circuit and Ninth Circuit have held, "precautionary actions to guard against a particular risk do not trigger a duty to perform a NEPA analysis" of that risk.[399] Therefore, TVA's brief discussion of its efforts to increase security in response to the risk of terrorism does not trigger a duty to perform a more detailed NEPA analysis of a potential terrorist aircraft attack at WBN Unit 2.

7. Proposed Contention 7 (Inadequate Consideration of Aquatic Impacts) Is Inadmissible Because It Is Inadequately Supported and Raises No Genuine Dispute.

a. Overview of Contention and Supporting Bases

According to Petitioners, "TVA claims that the cumulative impacts of WBN Unit 2 on aquatic ecology will be insignificant (FSEIS Table S-1 at page. S-2, and Table 201 at page 30). [sic] TVA's conclusion is not reasonable or adequately supported, and therefore fails to satisfy 10 C.F.R. § 51.53(b) and NEPA." They identify three purported bases for this proposed contention: (1) TVA allegedly "mischaracterizes the current health of the ecosystem as good, and therefore fails to evaluate impacts in light of the fragility of the host environment"; (2) TVA allegedly "relies on outdated and inadequate data on thermal impacts and the impacts of impingement and entrainment of aquatic organisms in the plant's cooling system"; and (3) TVA allegedly "fails completely to analyze the cumulative impacts of WBN2 when taken together with the impacts of other industrial facilities and dams on the Tennessee River."[400] Proposed Contention 7 is supported by the attached Declaration of Dr. Shawn Paul Young ("Young Declaration").

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aircraft attack on WBN Unit 2 is "too far removed from the natural or expected consequences of agency action to require a study under NEPA." *Grand Gulf*, CLI-07-10, 65 NRC at 146-47 (quoting *Oyster Creek*, CLI-07-8, 65 NRC at 129).

399 *N.J. Dep't of Envtl. Prot.*, No. 07-2271, slip op. at 27 (*citing Ground Zero Ctr. for Non-Violent Action v. Dep't of the Navy*, 383 F.3d 1082, 1090-91 (9th Cir. 2004) (in which the Ninth Circuit found that the Navy's consideration of a potential Trident missile accident in planning base layout did not mean that the Navy had to prepare a NEPA review regarding the effects of that potential accident)).

400 Petition at 31-32.

As demonstrated below, TVA's environmental documents, considered together, include extensive and detailed descriptions of the existing aquatic environment in the vicinity of WBN Unit 2,[401] along with detailed analyses of the environmental impacts on aquatic ecology,[402] including impingement,[403] entrainment,[404] and thermal impacts,[405] consistent with NEPA and governing regulations. As permitted under NEPA,[406] TVA's evaluation of aquatic ecology in the 2007 FSEIS tiers from and updates information from numerous previous environmental studies.[407] Petitioners, however, have largely ignored this information, glossing over the facts with vague allegations and unsupported claims. As a result, Proposed Contention 7 should be dismissed.

b. Proposed Contention 7 Is Not Admissible and Should be Dismissed

(i) Generalized Demands for Additional Site-Specific Studies Do Not Raise a Genuine Dispute

As explained above, the Petitioners' first basis for this contention challenges TVA's assessment of aquatic impacts because it allegedly "is based on the faulty premise that the

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401 *See generally* 2007 FSEIS at 54-56 (*citing* TVA 1972 FES; NRC 1995b; Watts Bar Nuclear Plant Supplemental Condenser Cooling Water Project Environmental Assessment (Aug. 1998) (encl. to Letter from M. Bajestani, TVA, to NRC Document Control Desk, "Watts Bar Nuclear Plant (WBN) - Unit 2 - Final Supplemental Environmental Impact Statement - Request For Additional Information (TAC MD8203) (July 2, 2008) ("FSEIS RAI Response"), *available at* ADAMS Accession No. ML081850460) ("1998 SCCW EA")); & extensive recent studies).

402 *See* 2007 FSEIS at 54-57.

403 *See id*.; *see also* Fish Impingement at Watts Bar Nuclear Plant Supplemental Condenser Cooling Water Intake Structure During 2005 Through 2007 (2007) (encl. to FSEIS RAI Response), *available at* ADAMS Accession No. ML081850460 ("2007 Impingement Report"); Aquatic Environmental Conditions in the Vicinity of Watts Bar Nuclear Plant During Two Years of Operation, 1996-1997 (1998) (reference TVA 1998b to 2007 FSEIS) ("1998 Aquatic Study").

404 *See generally* 2007 FSEIS at 54-56.

405 *See* 2007 FSEIS App. A, Summary of Previous Hydrothermal Impact Studies (summarizing extensive hydrothermal impact studies over a period of thirty years); *see also* 1998 SCCW EA.

406 *See* 40 C.F.R. § 1502.4(d); *see also id*. § 1502.20 ("Agencies are encouraged to tier their environmental impact statements to eliminate repetitive discussions . . . .").

407 *See* 2007 FSEIS at 5-8.

aquatic ecosystem . . . is currently in a good state of health."[408] Petitioners demand extensive, additional site-specific studies and data gathering,[409] based on Dr. Young's mischaracterizations of TVA's assessment of baseline aquatic conditions.[410] These are not genuine disputes, and are therefore subject to dismissal under 10 C.F.R. § 2.309(f)(1)(vi).

This basis for Proposed Contention 7 is similar to the rejected portions of two contentions in other recent proceedings: one in the *Vogtle* ESP proceeding, the other in the *Bellefonte* Units 3 and 4 combined license ("COL") proceeding.[411] Like the petitioners in those proceedings, the Petitioners here, in essence, express their bare disagreement with TVA's assessment of baseline aquatic environmental conditions.[412] This is not a *genuine* dispute. In rejecting similar allegations, the *Vogtle* Board explained that "nothing in the agency's Part 51

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408 Petition at 32.

409 *See*, *e.g.*, Young Declaration paras. III.D.7 to10 (requesting additional field studies of entrainment); III.D.14 (requesting "data for fish eggs"); III.D.16 (requesting unspecified further "monitor[ing]" and "evaluat[ion]" of impingement rates); III.E.2 (requesting additional "evidence in the form of scientific study or field observation" for thermal impacts); III.E.3.a (requesting "data on spatial and temporal distribution of ichthyoplankton in relation to thermal mixing zones"); III.E.3.b (requesting that TVA "couple[] modeling of the thermal discharge plumes under different river flows with ichthyoplankton and mussel distributions").

410 For example, Dr. Young attempts to compare fish sampling data from the Chickamauga Reservoir in the 1970s to more recent data. *See* Young Declaration para. III.C.4. This comparison ignores the fact that the sampling methodology TVA used in the 1970-73 surveys is quite different from the Reservoir Fish Assemblage Index ("RFAI") methodology used today, precluding direct comparisons between the raw data. Dr. Young also attempts to dispute TVA's characterization of the health of the benthic invertebrate community as "excellent" by implying that this is a direct measure of only the mussel community. *See* Young Declaration paras. III.C.7 to 8. Again, the benthic index is a derived index similar to the RFAI which is used to comparatively rate benthic communities in TVA reservoirs. It is not a direct measure of the mussel community composition at the WBN site. Furthermore, Dr. Young does not directly dispute the information regarding the benthic community TVA presents on pages 55 and 152 of the 2007 FSEIS. Instead, he compares the *overall* variety of mussel species present near the WBN site "[p]rior to the impoundments,"—*i.e.*, prior to the construction of the Chickamauga and Watts Bar Reservoirs in the 1940s—with the variety of mussel species present today. *See* Young Declaration para. III.C.8. This overall decline in mussel species in the Tennessee River following impoundment is well documented and recognized as the baseline condition in TVA environmental reviews, including several discussions in TVA's Reservoir Operations Study Final Programmatic Environmental Impact Statement (May 19, 2004), which is a comprehensive reservoir analysis of TVA's use and management of the Tennessee River system and is referenced in TVA's 2007 FSEIS at 6, 7 (available at http://www.tva.gov/environment/reports/ros_eis/index.htm).

411 *See Vogtle*, LBP-07-3, 65 NRC at 255-57; *Bellefonte*, LBP-08-16, slip op. at 36-40.

412 *See* Petition at 32 (claiming that the current aquatic environmental conditions are "damaged, fragile and quite vulnerable" as opposed to "good").

NEPA regulations, or the staff's ER preparation guidance regarding providing a description of the local environment, indicates exactly how, as a general matter, such a baseline is to be established."[413] In both *Vogtle* and *Bellefonte*, the petitioners had "not demonstrated with any references—nor are we aware of any—that suggest site-specific studies are generally required. Rather, the appropriate scope is a functional concept: an applicant must provide enough information and in sufficient detail to allow for an evaluation of important impacts."[414] Similarly, basis (1) of Proposed Contention 7 expresses the Petitioners' bare disagreement—without citations to any relevant regulations or references—with data TVA relies upon and the conclusions TVA reaches with respect to the existing aquatic ecology, ignoring the "functional" nature of this evaluation.[415] This basis therefore fails to raise a genuine dispute and cannot support admission of this proposed contention.

(ii) Petitioners' Various Claims Mischaracterize TVA's 2007 FSEIS, Ignore Relevant Information, and Fail to Establish Any Significant Deficiency in TVA's Analysis of Aquatic Impacts

The Petitioners' basis (2) alleges that TVA uses "outdated and inadequate data" regarding cooling intake and discharge system impacts on aquatic organisms through impingement, entrainment, and thermal discharges.[416] This basis relies extensively upon mischaracterizations

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413 LBP-07-3, 65 NRC at 256.

414 *Bellefonte*, LBP-08-16, slip op. at 38-39; *Vogtle*, LBP-07-03, 65 NRC at 257.

415 For example, Dr. Young takes issue with TVA's characterization of the data in Table C-3 of the 2007 FSEIS. *See* Young Declaration para. III.C.3. Dr. Young fails to recognize that RFAI values within six points are essentially indistinguishable. *See* Results of Biological Monitoring in the Vicinity of Watts Bar Nuclear Plant, 2000 (June 2001) at 4 (encl. to Letter from R. Crawford, TVA, to P. Davis, Tenn. Dep't of Env't & Conservation, "Watts Bar Nuclear Plant (WBN) -National Pollutant Discharge Elimination System (NPDES) Permit No. TN0020168 -Supplemental Condenser Cooling Water (SCCW) System Project Number 98-1092 - Fish Monitoring Program Studies" (June 22, 2001)), *available at* ADAMS Accession No. ML011870173 (*cited* in 2007 FSEIS at 54) ("2001 SCCW Fish Monitoring Program"). Since 1995 (*i.e.*, before WBN Unit 1 commenced operation), therefore, the "downstream" values have remained essentially constant. *See* 2007 FSEIS at 151. Nor, as noted above, does Dr. Young's characterization of these data raise a genuine dispute.

416 Petition at 33.

of TVA's environmental documents and ignores essential information submitted by TVA to the NRC. It also makes unwarranted and unsupported demands for additional data gathering and studies based on speculation.

It is well established that a petitioner must "read the pertinent portions of the license application . . . state the applicant's position and the petitioner's opposing view."[417] Moreover, the Commission has explained, "[o]ur boards do not sit to 'flyspeck' environmental documents or to add details or nuances."[418] Dr. Young's various allegations, taken individually or together, fail to establish any significant inaccuracy or omission in TVA's environmental documents. In addition, the *Bellefonte* Board rejected significant portions of a similar aquatics-related contention—also based on Dr. Young's opinions—because of similar mischaracterizations of the applicant's analyses.[419] The following section addresses each of Petitioners' principal aquatic impacts allegations and the purportedly supporting information supplied by Dr. Young and explains why each one fails to raise a genuine dispute.

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[417] Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *see also Millstone*, CLI-01-24, 54 NRC at 358; *Ga. Tech.*, LBP-95-06, 41 NRC at 300 (holding that a petitioner's imprecise reading of a document cannot be the basis for a litigable contention).

[418] *Sys. Energy Res., Inc.* (Early Site Permit for Grand Gulf ESP Site), CLI-05-04, 61 NRC 10, 13 (2005); *see also Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-09-11, slip op. at 6 (June 4, 2009) ("The Commission has long stressed that NRC adjudicatory hearings are not 'EIS editing sessions.'") (*quoting McGuire*, CLI-03-17, 58 NRC at 431).

[419] *Bellefonte*, LBP-08-16, slip op. at 39-40.

Entrainment

Petitioners first allege that TVA has "not taken direct measurements of entrainment, even though direct measurements are recommended by the U.S. Environmental Protection Agency. Instead, it has extrapolated entrainment estimates from outdated and inadequate data."[420] This is based primarily on Dr. Young's claim that TVA's entrainment studies did not use "the appropriate methodology"[421] apparently set forth in a draft EPA guidance document.[422]

The Tennessee Department of Environment and Conservation ("TDEC") has reviewed and approved TVA's 1996-97 entrainment and impingement monitoring program.[423] TDEC also has determined that the WBN CCW system constitutes best technology available to minimize adverse environmental impacts (including entrainment) under 40 CFR §§ 122.43 and 401.14 and Clean Water Act, § 316(b), 33 U.S.C. § 1326(b).[424] The Petitioners and Dr. Young do not claim that TVA's monitoring was inconsistent with these regulations, nor do they explain why the Board should question TDEC's determinations, which are made on a "case-by-case, best

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420 Petition at 34 (*citing* Young Declaration paras. III.D.7 to10).

421 Young Declaration para. III.D.8. Dr. Young also complains that certain data from the 1998 Aquatic Study are not recited in the FSEIS. *See id*. This complaint overlooks Petitioner's burden to examine the available information. *See Catawba*, ALAB-687, 16 NRC at 468. Indeed, as explained in Section II, above, TVA responded to numerous requests for documents from Petitioners' counsel. Petitioners do not explain why, if Dr. Young required certain information referenced in the 2007 FSEIS, Petitioners' counsel did not ask for that information from TVA. *See* Young Declaration para. III.D.8.

422 Young Declaration para. III.D.10 (*citing* U.S. Environmental Protection Agency, Guidance for Evaluating the Adverse Impact of Cooling Water Intake Structures on the Aquatic Environment: Section 316(b) P.L. 92-500 (May 1, 1977) (draft), *available at* http://www.epa.gov/waterscience/316b/files/1977AEIguid.pdf ("EPA Draft Guidance"). The Petitioners do not attach or cite a source for this document, nor do they disclose that this is a *draft* guidance document.

423 *See* Watts Bar Nuclear Plant Third Annual Nonradiological Environmental Operating Report at 5 (1998-1999) (encl. to Letter from P.L. Pace, TVA, to NRC Document Control Desk, "Watts Bar Nuclear Plant (WBN) – Unit 1 – 1998 Annual Nonradiological Environmental Monitoring Report (ANEOR)" (May 6, 1999)), *available at* ADAMS Accession No. ML073470550 ("The monitoring program found that the first two years of WBN operation have had no affect [sic] on the aquatic communities nor the water quality in the upper Chickamauga Reservoir.").

424 *See* TDEC Modified NPDES Permit No. TN0020168 (Feb. 8, 2005) at 26 (Encl. 1 to Letter from P. Pace, TVA, to NRC Document Desk, "Watts Bar Nuclear Plant (WBN) Unit 1 – Notification of National Pollution Discharge Elimination System (NPDES) Permit Renewal), *available at* ADAMS Accession No. ML051110138 ("2005 Modified NPDES Permit").

professional judgment (BPJ) basis."[425] Instead, Dr. Young alleges that TVA did not follow a draft EPA guidance document, a claim that does not raise a genuine dispute.[426]

Petitioners next allege that "TVA's conclusion that entrainment impacts are insignificant is based upon an unsupported assumption that population densities are uniform across the river channel and from the surface to the bottom of the river."[427] This is based primarily on Dr. Young's assertion that uniform population distribution is a "*potentially* erroneous assumption."[428]

In concluding that aquatic ecology impacts, including entrainment impacts, are insignificant,[429] TVA does not rely solely upon any assumptions regarding population distributions of organisms. As explained in the 2007 FSEIS, TVA's evaluations of entrainment impacts are based on "comparisons between preoperational (1976-1985) and operational (1996-1997) densities of fish eggs and larval fish."[430] Petitioners do not explain how these comparisons in the 2007 FSEIS rely upon any assumptions relating to population distributions. Indeed, in this allegation Petitioners and Dr. Young ignore these comparisons and the 2007 FSEIS altogether by focusing solely on the NRC's 1978 FES.[431] Despite ignoring relevant information included or referenced in the 2007 FSEIS, Dr. Young demands extensive additional field studies based only

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425 *See* 40 CFR § 125.90(b).

426 *See Int'l Uranium (USA) Corp*., CLI-00-1, 51 NRC 9, 19 (2000) (upholding the rejection of a contention alleging a lack of compliance with a guidance document because guidance documents "do not carry the binding effect of regulations"). In any event, TVA's 1996-97 surveys were conducted consistent with the methodology provided the EPA Draft Guidance.

427 Petition at 34 (*citing* Young Declaration paras. III.D.11 to 13). These paragraphs of the Young Declaration discuss only Table C.16 of the 1978 NRC FES, and ignore all of TVA's subsequent environmental submittals to the NRC discussing entrainment impacts.

428 Young Declaration para. III.D.11 (emphasis added).

429 *See* 2007 FSEIS at 30.

430 *Id.* at 54. TVA also relies upon the 1998 SCCW EA, which estimated extremely low levels of entrainment (approximately 0.12% of the transported population), *see* 1998 SCCW EA at 34; *see generally* 2001 SCCW Fish Monitoring Program; *see also* 2007 FSEIS at 54.

431 *See* Petition at 34; Young Declaration paras. III.D.11 to 13. In addition, from 1996 to 1997, TVA conducted two years of entrainment and impingement monitoring of the CCW system after WBN Unit 1 began operating. *See generally* 1998 Aquatic Study. These field studies also do not rely upon any population distribution assumptions, and are ignored by the Petitioners and Dr. Young. *See* Petition at 34; Young Declaration paras. III.D.11 to 13.

on his speculation that such studies may potentially reveal data to support his position.[432] Nor does he explain why additional studies of organism distributions within the ecosystem could result in *significant* changes to the overall aquatic environmental impact analysis.[433] These statements are therefore unsupported and fail to raise a genuine dispute.

Petitioners assert that "TVA also does not provide any data for fish eggs, which may be found in high abundance during different times of the year."[434] This claim is based on Dr. Young's statement that "Table C.16 of the NRC's 1978 FEIS does not give any data for fish eggs."[435]

Petitioners and Dr. Young again ignore the "data for fish eggs" that appears in Table C-1 of the 2007 FSEIS. Dr. Young does not address or explain any alleged deficiencies with this information, including the numbers and composition of fish eggs and larvae surveyed in preoperational surveys in 1976-85 and operational surveys in 1996-97 in the vicinity of WBN presented in this table, or as discussed in the 2007 FSEIS and its references.[436]

Impingement

As to impingement impacts, the Petitioners first criticize TVA for "fail[ing] to follow up on a survey conducted at the SCCW intake that found an increased level of impingement in comparison to other surveys."[437] This is based on Dr. Young's statement that TVA failed to "monitor or evaluate the negative trend" in impingement observed in TVA's 2005-2007 study.

Here, Petitioners and Dr. Young simply ignore TVA's analysis of the results of the SCCW survey. Contrary to Dr. Young's statement that TVA failed to "evaluate" the results of the 2005-2007 impingement study, TVA's 2009 FSEIS RAI Response provides this evaluation.

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432 *See* Young Declaration para. III.D.13 ("fish populations *may* vary across the river") (emphasis added). Dr. Young also does not explain why "egg and larval" populations may be disproportionately located near water intakes. *See id*.

433 *See Sys. Energy Res., Inc.*, CLI-05-04, 61 NRC at 13.

434 Petition at 34-35 (*citing* Young Declaration paras. III.D.14 to 15).

435 Young Declaration para. III.D.14.

436 *See* 2007 FSEIS at 54 (discussing data on fish egg and larval densities and variation collected over a 25-year period).

437 Petition at 35 (*citing* Young Declaration para. III.D.16).

In its evaluation, TVA explained that threadfin shad and related species comprised the vast majority of impinged fish in part because these species are subject to high winter mortality, probably leading to the impingement of moribund fish during the peak periods in late winter.[438] Neither Dr. Young nor the Petitioners address or explain any disagreement with TVA's analysis. Dr. Young's statement is therefore an incorrect allegation of an omission. Because the allegedly omitted evaluation is, in fact, present in TVA's docketed environmental documents, this claim fails to raise a genuine dispute.[439]

Petitioners then criticize TVA for failing to collect additional impingement data for the CCW intake and for failing to distinguish between the Lake Chickamauga and Watts Bar Reservoir intakes: "TVA also failed to update the thirty-five-year-old data on which it relied for its conclusions about impingement impacts at the WBN Unit 1 intake."[440]

Being a closed-cycle system, the CCW system at WBN is used to provide makeup water to WBN cooling towers. A closed-cycle system represents state-of-the-art technology for minimizing the adverse environmental impacts of withdrawing water for plant cooling purposes. The CCW system at WBN has an approach velocity of approximately 0.4 feet per second and minimal makeup water requirements (approximately 0.7% of average river flow).[441] For these reasons, and based on TVA's 1996-97 impingement and entrainment study, TDEC has determined that the CCW system is the best technology available to minimize adverse

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438 *See* 2007 Impingement Report at 2-5.

439 *See Millstone*, LBP-04-15, 60 NRC at 95-96; *Crow Butte Res., Inc.* (License Renewal for the In Situ Leach Facility, Crawford, Neb.), LBP-08-24, slip op. at 67 (Dec. 10, 2008).

440 Petition at 35 (*citing* Young Declaration para. III.D.17). The intakes for the SCCW system are located upstream of the Watts Bar Dam on the Tennessee River, i.e., in the Watts Bar Reservoir. *See* 2007 FSEIS at 23. The CCW system intakes are located downstream of the Watts Bar Dam. *See* 2007 FSEIS at 21-23. Petitioners appear to refer to this section of the river as "Lake Chickamauga."

441 *See* NRC 1995b at 5-7. Based on this, the NRC concluded that fish impingement from the CCW system will be minimal under Unit 1 operation. *See id*.

environmental impacts (including impingement).[442] This will not change with operation of WBN Unit 2.[443] Moreover, in accusing TVA of relying on 35-year-old data, Petitioners ignore the operational impingement and entrainment study for the CCW system that TVA conducted from 1996-97.[444] Dr. Young disregards all of these facts in his demand for additional impingement data collection relating to the CCW system intakes.

Thermal Impacts

The Petitioners claim that TVA's conclusions regarding thermal impacts are supported by "no evidence" and "are contradicted by its own acknowledgment of the need to relocate mussels in the vicinity of the SCCW discharge to avoid mortality from elevated temperatures."[445]

Contrary to Petitioners' and Dr. Young's assertions, TVA's conclusion that aquatic impacts, including thermal impacts, are insignificant[446] is supported by an extensive series of hydrothermal impact studies conducted over a period of over 30 years. These studies are summarized in detail in Appendix A to TVA's 2007 FSEIS, and further information is provided in Section 3.3.3.3 of the 1998 SCCW EA. In addition, TVA conducted extensive hydrothermal modeling specifically for the 2007 FSEIS.[447] Petitioners' statement that TVA's conclusion is supported by "no evidence" is therefore an incorrect allegation of an omission. Because the allegedly-omitted information is, in fact, present in TVA's application and related submittals, this claim fails to raise a genuine dispute.[448] In addition, TVA's identification of a potential

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442 *See* 2005 Modified NPDES Permit at 26, *available at* ADAMS Accession No. ML051110138 ("316(b) limitations for this facility are determined to be in compliance based on best professional judgment in accordance with 40 CFR 401.14 and 122.43.").

443 *See* 2007 FSEIS at 30 ("intake flows would stay within the original design basis for operation of the two-units in closed cycle mode, and discharge changes would remain within existing NPDES limits").

444 *See generally* 1998 Aquatic Study.

445 Petition at 35 (*citing* Young Declaration para. III.E.2).

446 *See* 2007 FSEIS at 30.

447 *See id*. at 37-45.

448 *See Millstone*, LBP-04-15, 60 NRC at 95-96; *Crow Butte*, LBP-08-24, slip op. at 67.

impact on a single category of organisms (*i.e.*, mussels) and decision to take mitigative steps to address that impact does not support any genuine dispute with TVA's overall characterization of hydrothermal impacts.[449] In particular, Petitioners do not explain why TVA's proposed mitigation measure has the salutary effect of precluding a localized potential impact undermines TVA's overall assessment of impacts on aquatic ecology.

Next, Petitioners allege that "TVA is missing a number of basic data sets with respect to thermal impacts . . . ."[450] Specifically, Petitioners refer to: (1) "data on overall drift communities"; (2) "data on spatial and temporal distribution of ichthyoplankton in relation to thermal mixing zones"; (3) "characteristics of the thermal plume"; (4) "variations in size and temperature profile of the mixing zone"; (5) "the temperatures in the core of the thermal plume (rather than at the edge) and whether they have an effect on aquatic organisms"; and (6) "the effects of high temperatures on fish eggs and larvae."[451]

The Petitioners and Dr. Young again express the desire for extensive additional data. Importantly, they do not show why additional data is required, under any applicable regulations, to perform a reasonable assessment of thermal impacts as required under NEPA, or even why the existing data is inaccurate.[452] For example, Dr. Young's desire for additional data relating to the "variability" of the mixing zone on an "hourly, daily, and seasonal basis"[453] ignores Section 3.1.1 of the 2007 FSEIS, which explains that TVA's hydrothermal analysis models were based on observed conditions over a thirty year period (1976 through 2005), and addressed ambient water

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449 *See Sys. Energy Res., Inc.*, CLI-05-04, 61 NRC at 13 ("If the ER (or EIS) 'comes to grips with all important considerations' nothing more need be done.") (*quoting Hydro Res.,* CLI-01-4, 53 NRC at 71).

450 Petition at 35 (*citing* Young Declaration para. III.E.3).

451 Petition at 35-36 (*citing* Young Declaration paras. III.E.3a to f).

452 *See Indian Point*, LBP-08-13, 68 NRC at 187 (requiring a petitioner to make a "minimal demonstration" that an applicant's environmental analysis "fails to meet a statutory or regulatory requirement"). In addition, as the Board in *Vogtle* concluded after assessing the merits of similar claims by Dr. Young, "[w]e are not unsympathetic that, as an aquatic ecologist, Dr. Young would want the utmost site-specific information available to aid him when he is assessing the nature of a particular aquatic environment." *Vogtle*, LBP-09-07, slip op. at 38-39. However, after considering the Staff's EIS, the Board found "no basis here for a entering a ruling that NEPA required the preparation of a contemporaneous, site-specific aquatic impacts field survey . . . ." *Id*. at 39.

453 Young Declaration para. III.E.3.f.

temperatures on an hourly basis.[454] Moreover, these allegations do not raise admissible environmental claims because Dr. Young does not explain how the additional data he seeks could result in *significant* changes to the overall aquatic impact analysis.[455]

Petitioners' final statement regarding thermal impacts is that "TVA fails to show that it has accounted for the impacts of overflow from the holding ponds, where excess cooling water may be stored at very high temperatures."[456] This statement refers to Dr. Young's description of a speculative scenario, wherein "[i]f" holding pond storage capacity is exceeded then water could be released "from emergency holding ponds (Outfall 102) at temperatures allowable up to 104°F," leading to potential thermal impacts to unidentified "sensitive and rare species."[457]

Dr. Young admits that his discussion is totally speculative because he acknowledges that "this scenario has not occurred."[458] His scenario also is erroneous because WBN's current NPDES permit specifies the relevant discharge temperature limit at 95°F, not 104°F.[459] Furthermore, Dr. Young does not identify the "sensitive and rare species" that he alleges could be affected by undefined "thermal impacts."[460]

As is clear from the foregoing summary, the Petitioners and Dr. Young repeatedly overlook docketed material that addresses their concerns regarding the impacts of WBN Unit 2 on aquatic ecology. Indeed, basis (2) for this proposed contention amounts to a collection of mischaracterizations of TVA's environmental documents, allegations of omitted information that is, in fact, present, and unsupported demands for additional data gathering. Accordingly, this

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454 *See* 2007 FSEIS at 37.

455 *See Sys. Energy Res., Inc.*, CLI-05-04, 61 NRC at 13.

456 Petition at 36 (*citing* Young Declaration para. III.E.4).

457 Young Declaration para. III.E.4.

458 *Id*.

459 *See* 2007 FSEIS at 26 ("The current NPDES permit also specifies a discharge temperature limit of 35°C (95°F) for Outfall 102.").

460 *Cf. Vogtle*, LBP-09-7, slip op. at 38 n.10 (rejecting Dr. Young's challenge to the *Vogtle* EIS's focus on "important species" because Dr. Young did not identify what "uncommon and rare," or "at risk" or "neglected species" he was concerned about).

basis for Proposed Contention 7 lacks adequate support and fails to raise a genuine dispute, contrary to 10 C.F.R. § 2.309(f)(1)(v) and (vi).

(iii) Demands for Separate Identification and Quantification of Existing Impacts of Other Facilities on Aquatic Resources Do Not Raise a Genuine Dispute

The remaining basis of this proposed contention is Petitioners' claim that TVA must:

> address the cumulative impacts of WBN Unit 2 in conjunction with the impacts of the numerous water impoundments on the Tennessee River, or other industrial facilities such as the ten fossil-burning plants, the six operating nuclear reactors, and the five additional reactors for which TVA has sought operating licenses. Each of these facilities affects the Tennessee River continuum.[461]

As described above, TVA's assessment of the aquatic environment near WBN Unit 2 accounts for the impacts of existing facilities because it is based on an extensive set of reports and data that represent "current environmental conditions."[462] The current conditions account for the impacts of existing plants, including TVA's fossil and nuclear plants on the Tennessee River. In addition, the 2007 FSEIS also incorporates by reference the pertinent information in TVA's Reservoir Operations Study Final Programmatic Environmental Impact Statement, which, as stated previously, is a comprehensive analysis of TVA's use and management of the Tennessee River system.[463] As explained below, TVA's analysis is consistent with NEPA and 10 C.F.R. § 51.53(b) because there is no requirement to break down or detail the various sources of existing or future impacts on the Tennessee River.

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461 Petition at 36. Similar language appears in the Young Declaration, para. III.A.3.

462 *See generally* 2007 FSEIS at 54-56.

463 *See* 2007 FSEIS at 6, 7 (*citing* Reservoir Operations Study Final Programmatic Environmental Impact Statement).

The Board in the *Calvert Cliffs* COL proceeding recently rejected a similar contention.[464] That contention alleged that the ER was deficient because it failed to address the cumulative impact of the proposed new reactor in addition to the various existing and proposed nuclear projects on Chesapeake Bay.[465] The Board found that the ER's consideration of existing conditions accounted for the impacts of other operating facilities, and that there was no separate requirement to "separately identify or quantify" specific existing impacts from other facilities on the aquatic resource.[466] In particular, the Board held that an adequate cumulative impacts analysis could be done without "delving in to the historical details of individual past actions."[467] In failing to find a genuine dispute, the Board explained,

> the ER examines existing conditions in [Chesapeake] Bay to form an environmental baseline against which to measure the cumulative impact of the proposed new reactor. Because the environmental baseline reflects the effects of all currently existing pollution sources in the Bay's watershed, it necessarily includes any contribution by nuclear power plants in the watershed, although it does not separately identify or quantify that contribution (or the contribution of any other industry).[468]

With respect to the potential impacts of proposed new reactors other than Calvert Cliffs, Unit 3, the Board found that "[n]o evidence before us suggests that the proposed new reactors

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464 *See Calvert Cliffs 3 Nuclear Project, LLC* (Combined License Application for Calvert Cliffs Unit 3), LBP-09-4, slip op. at 38-43 (Mar. 24, 2009); *see also id*. at 53-57 (rejecting a different cumulative impacts contention because petitioners failed to provide sufficient support for the claim that the proximity of the proposed new reactor to a liquid natural gas terminal "somehow makes the cumulative impacts worse than acknowledged in the [Environmental Report]").

465 *See id*. at 39-40.

466 *See id*. at 39-41.

467 *See id*. at 41 (*citing* 40 C.F.R. § 1508.7, and the President's Council on Environmental Quality, Guidance on the Consideration of Past Actions in Cumulative Effects Analysis (June 4, 2005)), *available at* http://ceq.hss.doe.gov/nepa/regs/Guidance_on_CE.pdf).

468 LBP-09-4, slip op. at 40; *accord Vogtle*, LBP-09-7, slip op. at 90 ("[T]he fact that . . . there are various existing facilities making water withdrawals from the river does not, under the NEPA rule of reason, automatically compel an extensive analysis of how each facility withdrawing water upstream of the proposed Vogtle Units 3 and 4 interacts with the Savannah River environment.").

within the Chesapeake Bay watershed "will have" a cumulative or synergistic environmental impact upon the Chesapeake Bay."[469]

So too here. As in *Calvert Cliffs*, the Petitioners claim that TVA should be required to evaluate the impact of "each facility" in the existing aquatic environment.[470] The Petitioners do not cite any requirement for TVA to do so. In any event, as explained above, TVA's assessment of impacts on aquatic ecology accounts for current environmental conditions. Nor do the Petitioners present any evidence showing a cumulative or synergistic environmental impact between WBN Unit 2 and any other proposed "additional" reactor.[471] This type of claim does not raise a genuine dispute on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

In summary, for the foregoing reasons, this proposed contention is not properly supported such that it fails to raise a genuine dispute on a material issue of law or fact. Therefore, it should be dismissed.

V. CONCLUSION

For reasons discussed above, the Petitioners' request for hearing and petition to intervene in this proceeding should be denied. Although the Petitioners have shown standing to intervene in this proceeding, they have not proffered an admissible contention. In addition, although the Petition was timely filed on behalf of SACE, it is untimely with respect to the other petitioners,

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469 LBP-09-4, slip op. at 43 (*citing Kleppe v. Sierra Club*, 427 U.S. 390, 410 (1976)).

470 Petition at 36.

471 *See id*. (*citing* Young Declaration para. III.A.3). Moreover, it is unclear to what "five additional reactors" Petitioners are referring. *See* Petition at 36. If this reference addresses the reactors TVA has proposed at the Bellefonte site, located near Scottsboro, Alabama, approximately 136 river miles downstream from the WBN site along the Tennessee River and in an entirely different reservoir, then the Petitioners have proffered no evidence that these units will have any synergistic effect on the Chickamauga Reservoir. Further, TVA has considered far-field cumulative effects in the 2007 SEIS which concludes that two-unit operations at WBN is not expected to have any noticeable impact on Chickamauga Reservoir . *See* 2007 FSEIS at 34 ("operation of WBN is not expected to have any noticeable impact on Chickamauga Reservoir (far-field effect)"), 45 (discussing "Far-Field Effects").

TEC, WTP, the Sierra Club, and BREDL. Accordingly, the Petition should be denied in its entirety.

Respectfully submitted,

Signed (electronically) by Paul M. Bessette

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Dated in Washington, D.C.
this 7th day of August 2009

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	Docket No. 50-391
TENNESSEE VALLEY AUTHORITY	)	
	)	August 7, 2009
(Watts Bar Nuclear Plant Unit 2)	)	

CERTIFICATE OF SERVICE

I hereby certify that, on August 7, 2009, a copy of "Tennessee Valley Authority's Answer Opposing the Southern Alliance for Clean Energy, et al. Petition to Intervene and Request for Hearing," was filed electronically with the Electronic Information Exchange on the following recipients:

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